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MONTHLY REPORT

OF THE

DEPARTMENT OF AGRICULTURE

FOR

JANUARY, 1873.



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1873.

MONTHLY REPORT.

DEPARTMENT OF AGRICULTURE, STATISTICAL DIVISION,
Washington, D. C., January 27, 1873.

SIR: I herewith present for publication the results of the annual investigation concerning the prices of farm animals and their numbers, in comparison with the statement of the previous year; also, a translation of recent foreign communications from consular and other sources; a record of agricultural imports of the past fiscal year, and results of investigation in the different divisions of the Department.

Respectfully,

J. R. DODGE,
Statistician.

Hon. FREDERICK WATTS,
Commissioner.

COMPARATIVE NUMBERS AND PRICES OF FARM STOCK.

Returns of our annual circular relating to comparative numbers and prices of domestic animals show an increase in horses, cattle, and sheep, while the numbers of swine will aggregate nearly, if not quite, the total of last year. The advance is not heavy, but is most apparent in sheep, amounting to about one million, or near three per cent., exclusive of the Territories. The indicated increase in horses is about two per cent., and nearly the same advance in cattle. A slight increase in mules is also apparent.

The percentage of horses, as compared with last year, is as follows: Maine, Rhode Island, Connecticut, and New Jersey, 99 per cent.; New Hampshire, Vermont, Massachusetts, New York, Pennsylvania, Delaware, Florida, Ohio, 100; Maryland, Virginia, North Carolina, South Carolina, Alabama, Tennessee, Indiana, California, 101; Georgia, Kentucky, Illinois, Wisconsin, 102; Iowa, Missouri, Oregon, 103; Louisiana, West Virginia, 104; Mississippi, Texas, 105; Minnesota, 108; Arkansas, 109; Kansas, Nebraska, 110.

Mules in New York, New Jersey, Pennsylvania, Delaware, Virginia, Florida, Louisiana, California, 100; Maryland, Kentucky, Ohio, Michigan, Indiana, Wisconsin, 101; Georgia, Alabama, Mississippi, Tennessee, Illinois, Iowa, 102; South Carolina, Nebraska, 103; North Carolina, West Virginia, 104; Texas, Minnesota, 106; Kansas, 107; Arkansas, 108.

The States in which a decrease in cows appears are Texas, 94; Florida, 97; North Carolina, Alabama, Mississippi, 98; Massachusetts, Rhode Island, Connecticut, Georgia, 99. Those in which numbers are unchanged are Delaware, Maryland, Virginia, South Carolina, and Kentucky. The following States show an increase, New York, Pennsylva-

nia, Michigan, 101; New Hampshire, Vermont, Tennessee, West Virginia, Ohio, Indiana, Illinois, 102; Missouri, Louisiana, 103; Maine, Wisconsin, Iowa, California, Oregon, 105; Minnesota, 108.

The comparison of numbers of oxen and other cattle in the several States is as follows: Texas, 91; Connecticut, California, 95; Kentucky, 96; Florida, 97; Rhode Island, New Jersey, Pennsylvania, Maryland, Mississippi, 99; Vermont, Delaware, Virginia, South Carolina, Georgia, 100; New Hampshire, Massachusetts, New York, Tennessee, West Virginia, Michigan, 101; Alabama, Louisiana, Ohio, Indiana, Illinois, Missouri, 102; North Carolina, 103; Wisconsin, Iowa, 105; Arkansas, Minnesota, Oregon, 107; Maine, 108; Nebraska, 112; Kansas, 115.

In the following States a decrease in the numbers of sheep appears: Louisiana, Tennessee, Kentucky, 95; Mississippi, 96; Iowa, 97; Georgia, Indiana, 98; North Carolina, Alabama, Missouri, 99. No change is reported in Rhode Island, Virginia, or Texas. Increase is apparent in Maine, New Hampshire, Vermont, Massachusetts, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, South Carolina, Florida, Arkansas, West Virginia, Ohio, Michigan, Illinois, Wisconsin, Minnesota, Kansas, Nebraska, California, and Oregon.

The comparative numbers of hogs are as follows: Vermont, 95; New Jersey, 96; New Hampshire, North Carolina, Mississippi, Texas, California, 97; Rhode Island, Connecticut, South Carolina, Florida, Alabama, 98; New York, Pennsylvania, 99; Maine, Massachusetts, Kentucky, 100; Virginia, Louisiana, Tennessee, Wisconsin, 101; Georgia, Ohio, Michigan, 102; Delaware, Maryland, Arkansas, Illinois, Minnesota, Oregon, 103; Missouri, 105; West Virginia, 106; Indiana, 109; Nebraska, 118; Kansas, 120.

PRICES.—The prices of farm stock are better sustained than the rates obtained for other products of the farm. Horses command improved prices in nearly all sections of the country. Sheep are somewhat higher than last year, the appreciation being quite general, though not equal in the different sections. Cattle have advanced in some States, from local causes, and receded in others, milch cows generally advancing in the South and declining slightly in the North, while other cattle have advanced in some sections, particularly in the States north of the Ohio River. Swine are held at higher rates in the Eastern States, though prices elsewhere have generally declined.

An increase is shown in the prices of horses of all grades in New England, in New York, and Pennsylvania, in the cotton States, and in those of the Pacific coast. The comparison in New York is as follows:

	1 year.	2 years.	3 years.	Over 3 years.
1872, February.....	\$40 49	\$67 41	\$94 58	\$130 58
1873, January.....	42 00	69 50	99 00	135 00

In New Jersey prices have uniformly been quoted higher than in any other State, and while they are still relatively high, the rates of last year are not fully sustained. A small decline also appears in Delaware and Maryland. A slight advance appears in Virginia, and in horses of full age in North Carolina. The rate for horses of three years and upward in Georgia has advanced from \$113.29 to \$123; in Mississippi, from \$110 to \$111.21; and in Texas the comparison is as follows:

	1 year.	2 years.	3 years.	Over 3 years.
1872, February.....	\$12 43	\$18 72	\$30 08	\$46 23
1873, January.....	15 32	22 48	32 92	51 20

A slight advance is seen in Arkansas, and a decline in Tennessee from \$105.27 to \$101.20, from \$93.15 to \$88.25 in West Virginia, and from \$89.67 to \$87.66 in Kentucky. The change is slight in Ohio, Indiana, and Illinois; former high rates in Michigan are not fully sustained. Young stock in Minnesota shows little change, while prices of full-grown animals have advanced. An increase is also made in Wisconsin. A slight tendency to retrograde is seen in Iowa:

	1 year.	2 years.	3 years.	Over 3 years.
1872, February.....	\$27 27	\$41 35	\$59 47	\$85 02
1873, January.....	27 91	42 50	61 73	88 00

The highest class in Missouri has declined from \$74.15 to \$72.35; in Kansas from \$84.26 to \$76.59. In Nebraska the prices of young horses sympathize with the prevalent low rates for farm products, but full-grown horses, in great demand for service in enlarging the cultivated area, bring higher prices than last year. Horses are also higher in California and Oregon.

Horses bear the highest average price in New Jersey, for the several classes respectively, \$48.12, \$79.50, \$112, \$147.50, in Texas the lowest, the range of the classes being from \$15.32 to \$51.29. New York stands next below New Jersey; and California, Missouri, Oregon, Iowa, and Illinois come in order above Texas.

The prices of working-mules have advanced throughout the Middle and Southern States, except that the high rates in New Jersey are not sustained, though the average is still higher than in any other State. The average in Texas has advanced from \$67.60 to \$75.73. Growing-mules in Kentucky are held at an advance, while the rate for full-grown is unchanged, at \$112.15. A slight advance is seen in Indiana, Illinois, and Minnesota, and a small decline in Wisconsin, Iowa, Missouri, and Kansas. The stock of Nebraska is inadequate to the wants of agriculture, and commands advanced rates.

With a few exceptions, the prices of milch-cows are placed below the rates of last year. In Maine, New Hampshire, and Vermont, particularly in the first named State, where cattle were sacrificed last season on account of the partial failure of the hay-crop, prices have rallied with the increase of forage. There has been an upward tendency in this kind of stock in all the cotton States, which keeps pace with the movements toward improvement in quality and enlargement of the dairy interest. A few examples will show the rate of decline in other States:

	New York.	Ohio.	Michigan.	Illinois.	Iowa.	Kansas.
1872.....	\$39 53	\$37 36	\$36 86	\$33 77	\$28 49	\$30 77
1873.....	34 00	32 18	33 32	30 73	28 16	28 94

"Oxen and other cattle" are held at much higher rates in Maine, for the reason affecting the prices of milch cows; and an advance appears also in New Hampshire, Vermont, Massachusetts, and Rhode Island. No material change of rates is apparent in New York. In New Jersey prices have declined, and also slightly in Pennsylvania. In Delaware, Maryland, Georgia, Alabama, and Florida some advance is noted, while in Virginia and South Carolina rates are substantially unchanged, and in North Carolina not fully sustained. The Texas rates are slightly declining as follows:

	1 year.	2 years.	3 years.	Over 3 years.
1872, February.....	\$3 10	\$4 86	\$8 07	\$12 52
1873, January.....	3 00	4 42	7 56	11 54

So in Arkansas; while in Louisiana and Tennessee there is no material change. The price of cattle three years old and upward has declined in Kentucky from \$39.41 to \$37.54; in Ohio, from \$45.16 to \$42.43; in Michigan, from \$46.18 to \$46; in Wisconsin, from \$42.38 to \$37.08; in Minnesota, from \$38.46 to \$36.77. An advance appears in Indiana from \$36.53 to \$39.06; in Illinois, from \$36.40 to \$38.83; in Iowa, from \$36.16 to \$38.83; in Missouri, from \$29.72 to \$30.15. The younger cattle command a proportionate increase in these States. A comparison of prices (of three years old and upward) in these States is as follows:

	Kentucky.	Ohio.	Michigan.	Indiana.	Illinois.	Iowa.	Kansas.
1872....	\$39 71	\$45 16	\$46 18	\$36 53	\$36 40	\$36 16	\$31 42
1873....	37 54	42 43	46 00	39 06	38 66	38 83	31 13

Taking all the States together, the prices of cattle of all grades are well sustained amid the despondency arising from the low rates of many other productions of the farm.

A continued advance in the price of sheep is reported, almost without exception, although it is small in some of the States. The lowest average is \$1.75, in North Carolina and Georgia, and the highest is \$5.75, in Rhode Island. The comparison (for sheep one year old) in the following States is thus stated:

	Kentucky.	Ohio.	Michigan.	Indiana.	Illinois.	Iowa.	Missouri.	Kansas.
1872..	\$2 84	\$2 37	\$3 14	\$2 76	\$2 90	\$2 88	\$2 14	\$2 56
1873..	3 13	3 32	3 17	3 06	3 60	2 70	2 22	2 72

The prices of stock-hogs are somewhat higher in New England. In New York a small advance is reported, and in several of the Southern States. In the principal pork-producing States the necessity of a larger stock of swine to make use of the abundance of cheap corn, which does not bear transportation, has kept the price proportionately higher than that obtained for pork products.

The following comparison is given:

State.	1872.		1873.	
	Under one year.	Upward of one year.	Under one year.	Upward of one year.
Ohio.....	\$3 93	\$9 07	\$3 37	\$6 17
Michigan.....	3 54	8 06	3 40	7 88
Indiana.....	2 98	6 75	2 76	6 16
Illinois.....	3 78	7 48	3 40	7 01
Iowa.....	3 71	7 94	3 42	7 54
Missouri.....	2 18	4 78	1 82	4 17

The highest average is \$19.91 for old hogs, in Connecticut; the lowest, \$4.17, in Missouri.

States.	HORSES.					MULES.					MILCH COWS.	
	Total number of horses compared with that of Jan- nary, 1872.	Average price per head under 1 year old.	Average price per head between 1 and 2 years old.	Average price per head between 2 and 3 years old.	Average price per head over 3 years old.	Total number of mules compared with that of January, 1872.	Average price per head under 1 year old.	Average price per head between 1 and 2 years old.	Average price per head between 2 and 3 years old.	Average price per head over 3 years old.	Total number of milk cows com- pared with that of January, 1872.	Average price per head at this time.
Maine.....	99	\$27 50	\$48 66	\$74 53	\$106 50	100	\$41 50	\$71 00	\$107 50	\$149 00	105	\$36 56
New Hampshire.....	100	29 00	55 55	76 66	108 00	100	43 50	74 25	109 37	160 00	102	36 00
Vermont.....	100	31 40	55 00	82 00	115 00	100	48 00	76 00	116 00	148 00	102	35 23
Massachusetts.....	100	33 20	55 00	84 40	130 00	100	40 00	65 00	85 00	122 50	99	41 16
Rhode Island.....	99	33 00	60 00	86 50	122 50	100	49 00	70 00	112 00	137 00	99	42 50
Connecticut.....	99	35 00	58 00	83 00	121 66	100	42 22	63 83	98 03	136 21	99	39 50
New York.....	99	42 00	63 50	99 00	135 00	100	44 13	70 13	103 12	158 00	101	39 50
New Jersey.....	99	48 12	79 50	112 00	147 50	100	46 50	72 00	110 00	135 00	100	44 16
Pennsylvania.....	100	41 30	69 50	102 00	134 00	100	55 00	85 00	112 50	136 00	101	35 50
Delaware.....	100	42 50	69 00	80 00	120 00	100	40 00	65 00	85 00	122 50	100	33 00
Maryland.....	100	40 00	66 06	88 50	113 00	101	42 22	63 83	98 03	136 21	100	30 77
Virginia.....	101	34 00	52 48	78 40	108 23	100	44 13	70 13	103 12	158 00	98	33 69
North Carolina.....	101	34 00	60 50	84 50	112 00	104	37 12	60 00	105 00	130 00	100	17 09
South Carolina.....	101	38 50	61 00	90 00	120 00	103	46 50	72 00	110 00	135 00	99	21 93
Georgia.....	102	40 90	64 50	90 75	123 00	102	40 00	65 00	103 00	136 00	97	15 11
Florida.....	100	45 00	65 00	91 00	125 00	102	40 38	65 35	103 00	136 00	97	19 85
Alabama.....	101	36 78	56 00	75 00	111 21	102	39 81	64 25	97 35	136 21	98	23 12
Mississippi.....	103	33 50	52 08	73 00	123 23	100	38 33	60 00	90 00	130 00	103	26 50
Louisiana.....	105	25 25	43 25	67 00	108 75	106	24 00	37 50	53 48	75 73	94	13 50
Texas.....	105	15 32	22 48	32 92	89 00	108	38 84	56 53	81 66	110 00	107	20 43
Arkansas.....	109	31 92	44 65	63 07	89 00	102	35 00	56 50	83 50	117 62	102	21 54
Tennessee.....	101	38 20	57 52	79 94	101 20	104	35 00	56 50	83 50	117 62	102	29 80
West Virginia.....	104	28 30	41 42	64 03	83 25	101	41 24	61 34	89 81	112 15	100	30 13
Kentucky.....	102	33 00	46 59	62 80	87 66	101	37 78	60 37	89 78	112 00	102	32 18
Ohio.....	100	31 39	43 80	77 00	104 45	101	36 58	62 08	87 50	120 75	101	33 32
Michigan.....	101	32 00	53 86	74 54	105 70	101	36 58	62 08	87 50	120 75	101	33 32
Indiana.....	100	30 32	46 52	64 43	88 50	102	33 65	51 77	75 00	105 29	102	30 45
Illinois.....	102	28 50	42 06	61 64	88 50	101	33 65	51 77	75 00	105 29	102	30 45
Wisconsin.....	102	31 00	40 00	70 20	105 29	101	33 65	51 77	75 00	105 29	105	28 00
Minnesota.....	102	31 00	40 00	70 20	105 29	101	33 65	51 77	75 00	105 29	105	28 00
Iowa.....	106	33 50	53 77	79 60	113 63	106	35 00	54 58	80 83	120 69	108	30 08
Nebraska.....	103	27 27	41 35	59 47	85 02	102	33 62	50 93	74 95	102 62	105	28 16
Missouri.....	103	24 72	36 62	51 45	72 35	102	32 74	48 95	68 72	92 58	103	23 26
Kansas.....	110	23 31	36 00	53 05	76 59	107	30 99	47 29	68 66	96 75	112	28 94
Nebraska.....	110	23 31	36 00	53 05	76 59	107	30 99	47 29	68 66	96 75	112	28 94
California.....	101	19 14	45 33	67 91	98 84	103	28 66	56 66	85 00	118 50	105	30 96
Oregon.....	103	23 86	35 00	49 54	72 66	95	29 50	30 70	44 10	63 75	105	43 44
Oregon.....	103	23 86	35 00	49 54	72 66	95	29 50	30 70	44 10	63 75	105	32 95

States.	OXEN AND OTHER CATTLE.					SHEEP.			HOGS.		
	Total number of oxen and other cattle compared with that of Jan-uary, 1872.	Average price per year old.	Average price per head between one and two yrs old.	Average price per head between two and three years old.	Average price per head over three years old.	Total number of sheep compared with that of Jan-uary, 1872.	Average price per year old.	Average price per head under one year old.	Total number of hogs compared with that of Jan-uary, 1872.	Average price per year old.	Average price per head over one year old.
Maine.....	108	\$13 66	22 11	23 45	33 00	106	3 62	4 52	100	8 00	15 60
New Hampshire.....	101	10 83	21 00	35 00	63 33	105	3 60	4 45	97	9 50	18 50
Vermont.....	100	11 83	21 50	35 50	63 33	104	3 35	4 30	95	7 50	15 75
Massachusetts.....	101	12 00	22 00	36 00	65 00	112	3 12	4 12	100	11 50	19 40
Rhode Island.....	99	12 20	22 25	36 50	66 00	100	4 20	5 75	98	10 00	18 00
Connecticut.....	95	12 66	20 00	35 00	55 50	105	3 58	5 39	98	10 88	19 91
New York.....	101	11 20	20 00	32 00	52 00	102	3 40	4 60	99	6 65	13 30
New Jersey.....	99	12 50	20 62	31 75	47 33	103	4 25	5 20	96	7 50	14 50
Pennsylvania.....	99	10 62	18 45	30 64	46 50	101	2 75	4 00	99	6 50	13 00
Delaware.....	100	11 00	16 00	29 00	45 00	108	3 50	4 40	103	5 00	8 00
Maryland.....	99	10 50	16 22	22 88	35 00	102	3 50	4 40	103	5 03	10 12
Virginia.....	100	6 60	11 50	18 75	27 60	100	2 46	3 24	101	2 90	6 00
North Carolina.....	103	3 77	6 71	10 65	16 26	99	1 22	1 75	97	2 32	5 36
South Carolina.....	100	6 06	9 43	14 50	23 00	101	1 47	2 35	98	3 40	7 25
Georgia.....	100	4 69	7 53	12 09	17 55	98	1 24	1 75	102	2 34	4 99
Florida.....	97	4 00	5 94	9 88	14 40	113	1 37	2 35	98	2 05	4 65
Alabama.....	102	6 43	10 20	13 02	20 41	99	1 26	2 16	98	2 32	5 47
Mississippi.....	99	4 35	7 85	11 81	20 17	96	1 26	2 05	97	2 14	5 50
Louisiana.....	102	5 31	8 72	12 69	18 00	95	1 28	2 25	101	2 16	7 77
Texas.....	91	3 00	4 42	7 56	11 54	100	1 15	2 02	97	2 61	5 14
Arkansas.....	107	3 83	7 26	11 40	18 59	109	1 56	2 41	103	1 89	4 67
Tennessee.....	101	4 80	8 77	13 75	21 00	95	1 46	2 09	101	2 59	5 75
West Virginia.....	101	8 83	16 06	25 50	37 30	104	1 94	2 92	106	2 80	5 95
Kentucky.....	96	7 75	14 65	24 37	37 54	95	2 17	3 13	100	2 80	5 89
Ohio.....	102	9 66	17 52	28 47	42 43	102	2 15	3 32	102	3 37	8 17
Michigan.....	101	8 20	16 00	27 10	46 00	108	2 07	3 17	103	3 40	7 88
Indiana.....	102	9 30	16 47	26 97	39 66	98	2 16	3 06	109	2 76	6 16
Illinois.....	102	9 35	16 64	26 89	38 66	102	2 00	3 60	103	3 40	7 01
Wisconsin.....	105	7 89	14 25	23 46	37 08	105	2 17	3 06	101	3 58	7 96
Minnesota.....	107	7 61	13 79	23 09	36 77	104	2 15	3 06	103	4 00	8 15
Iowa.....	105	9 12	15 77	25 46	38 83	97	1 60	2 70	107	3 42	7 64
Missouri.....	102	6 85	12 69	20 24	30 15	99	1 57	2 22	105	1 82	4 17
Kansas.....	115	7 22	13 35	20 94	31 13	106	1 67	2 72	120	4 13	8 85
Nebraska.....	112	8 29	15 25	26 38	38 24	110	1 82	3 15	118	4 08	9 45
California.....	95	10 20	15 81	25 09	36 00	109	2 13	3 25	97	4 87	9 83
Oregon.....	107	8 66	14 25	21 70	30 20	110	2 16	3 26	103	3 38	6 50

EXTRACTS FROM CORRESPONDENCE.

CONDITION AND PRICES OF FARM ANIMALS.

MAINE.

York: Few horses died of the epizooty. *Franklin*: The great hay crop of 1872 makes stock much quieter, and at a much higher figure than in 1871. *Cumberland*: A reduction in numbers of most kinds of stock, and a corresponding rise in price, owing to a large supply of hay. *Waldo*: Farm stock in remarkably good condition; plenty of feed of all kinds. All stock well sheltered.

VERMONT.

Franklin: Mules are a new stock with us, many having been raised here lately. The demand for hay for shipment to the cities has caused a reduction in the stock of cattle, estimated at 5 per cent. *Chittenden*: All stock are wintering well. *Addison*: There are blooded horses raised here, which command large prices. The same is true of sheep; \$25 per head for ewes or rams is not an unusual price.

MASSACHUSETTS.

Dukes: There was a disease among our sheep last spring, by which some farmers lost 20 per cent. of their flocks. They were taken with the "snuffles" at first, but soon their heads began to swell, which killed them very soon. I have not learned of any remedy.

RHODE ISLAND.

Washington: Deficiency in hay crops the past two years has diminished the number of cattle from 5 to 15 per cent.

CONNECTICUT.

Middlesex: Probably from 75 to 100 horses have died from the epizooty. *New London*: Some horses have died from the epizooty. Milch cows are scarce, and command a good price. Sheep more numerous than one year ago.

NEW YORK.

Chemung: Hogs are rapidly decreasing, owing to a growing conviction that for the market we cannot compete with the Great West; besides, many are beginning to think that if they cannot raise hogs profitably they cannot use them profitably. *Yates*: December has been uniformly cold and favorable to the feeding of stock. *Steuben*: The horse-disease has been severe and wide-spread. Some have died, and experience has shown that "nostrum mixtures" have done more harm than good. To keep the horse quiet and warm proved the best of all treatment. *Genesee*: Hogs are worth about \$4 per hundred, gross. *Seneca*: A few standard flocks of American merinos are kept in this county; also a few thoroughbred sheep as producers of delaine wool; but the great majority are grade sheep kept for wool, mutton, and renovators of the soil. The high price of labor is now stimulating the production of wool and mutton. *Erie*: Very few horses in this section have escaped the epizooty. Nearly every death can be traced to ill treatment, or too much treatment. Horses which have been worked moderately, allowed to run to grass, sheltered from storms, and have not been doctored, have suffered comparatively little. *Ontario*: The epizooty which swept over this county October and November was not fatal to horses, but left them in bad condition, though they are now improving. *Wyoming*: The price of stock is not as high as last year, while hay is much higher. *Onondaga*: Sheep are in good demand for both wool and mutton, and the number has slightly increased.

NEW JERSEY.

Sussex: In November and December horses were attacked by the epizooty; very few died, but some of those were very valuable. Those did best who kept their horses in the stables without giving any medicine, or resorting to any other treatment than due regard to cleanliness. Sheep have increased in numbers during the last year; the reverse is true of hogs. *Hunterdon*: The epizooty has been general among horses and mules; about 60 deaths, confined to the old and infirm or weakly ones. *Mercer*: Very few mules raised in the county. Large numbers are brought from

other States and sold in their unbroken state at about \$300 per pair. Early spring lambs sell from \$7 to \$8 per head at three to four months old, while at one year old they could hardly find a purchaser at \$5. Perhaps 500 would not be far from the number of sheep killed in this county by dogs in 1872. *Warren*: There is seldom a mule raised in this county. They are bought in by dealers in stocks when about 3 years old, and sold at about \$350 per pair. I have put the average price of sheep under one year old at \$4; but lambs sold for market while young, at an average of about \$6 per head.

PENNSYLVANIA.

Clinton: Excepting the horse-disease all kinds of stock have been healthy. *Snyder*: Very few horses escaped the epizooty, and very few died with it. *Cambria*: Only such horses as were worked or unnecessarily exposed died of the epizooty. Horses kept warm and clean, not worked or exposed, with light feed, such as bran and boiled oats, with little hay, were successfully treated. There have been introduced several herds of good cattle, which are destined to have great influence on the stock of this county. Distinct Durham, Hereford, and Alderney flocks are now bred pure in this district, and with regular pedigrees. We esteem the Alderneys very much for improvement in our dairies. *Dauphin*: Deaths of horses from a dropsical affection, following the epizooty, are of frequent occurrence. The most effectual remedy has been turpentine applied to the throat and top of the head. *Butler*: The epizooty caused but little damage; hardly a dozen horses died with it; all appear well again. *Lycoming*: A few horses have died of the epizooty, but in nearly every instance the loss can be traced either to improper usage or to the effect of some other disease previously contracted. *Chester*: About 3 per cent. of our horses died of the epizooty. Have rated mules higher than horses because there are fewer very poor ones; the price of good horses is higher than of good mules. *Elk*: Not many fatal cases from the epizooty, and those, for the most part, of horses that had been affected by some other disease. The exceeding cold of the past month has been hard on stock. *Bucks*: Loss of horses by the epizooty not more than one-half of one per cent. Cattle and sheep about stationary; nine-tenths of the cattle are used for dairy purposes. Pork, dressed, is selling at about 6½ cents per pound—mostly used for sausages.

MARYLAND.

Baltimore: Horses will sell high. Mules in good demand. About 300 sheep killed by dogs. *Howard*: Dogs have destroyed the profit of sheep husbandry.

VIRGINIA.

Prince George: The fence law is a barrier to stock-raising. *Pittsylvania*: Cattle and all kinds of live stock inferior. Market facilities do not encourage enterprise. *Montgomery*: Marked improvement in quality of live stock. *Orange*: Increased attention to horses and mules. *Essex*: Sheep fast disappearing before the dogs. Hogs inferior; improved breed of Chester Whites lately introduced. The war depleted the stock of horses, but left some fine breeds descended from American racers, good for saddle and draught. *Augusta*: The number of old horses decreases the average price. *Gloucester*: Bells a partial protection to sheep. *Highland*: Sheep and other stock on the increase. *Rockbridge*: The dog law so unpopular that it was repealed; sheep consequently disappearing. *Southampton*: Dogs very destructive to sheep.

NORTH CAROLINA.

Gates: Epizooty general, but mild; few deaths. *Ashe*: Large numbers of sheep sold to northern markets. *Person*: Dogs very destructive to sheep. *Craen*: Sheep lost 20 per cent. by dogs; stock but a fourth of what it was formerly. *Guilford*: A hog killed here weighed 724 pounds gross, 650 net. *Greene*: All horses and mules had the epizooty; ten deaths. *Montgomery*: Sheep disappearing before dogs. Horse-disease mild. The cotton fever, with the low price of western pork, has killed hog-raising.

SOUTH CAROLINA.

Darlington: Epizooty reduced the price of mules. *Clarendon*: Hog-disease general and fatal. *Stewart*: Hog crop larger than since 1865. *Union*: Horse-disease mild; no deaths; horses worked did as well as those blanketed and nursed.

GEORGIA.

Cobb: Fifty dogs to one sheep. *Douglass*: About every horse and mule had the epizooty. *Wilkes*: Live stock generally decreasing in number but improving in quality.

Schley: General stoppage of business by the horse-disease. *Wilkinson*: Horse-disease prevalent; no deaths among well-kept stock. *Carroll*: Sheep husbandry unprofitable on account of hungry dogs, whose owners do not feed them. *Pike*: Heavy inroads upon sheep by dogs and butchers. *Murray*: Stock has annually increased since 1865.

FLORIDA.

Levy: A few cases of horse-disease. *Taylor*: Great decrease of stock cattle. *Gadsden*: Epizooty mild. *Liberty*: About five per cent. of horses and mules died of epizooty; many died of eating grass with the grass-worm on it, bringing on staggers.

ALABAMA.

Franklin: Horse-disease mild. *Coffee*: Epizooty prevailing; no deaths. *Lauderdale*: Dogs destructive to sheep. *Clay*: Dogs killed 33½ per cent. of the sheep.

MISSISSIPPI.

Hancock: Stock decreased by exportation. *Tishomingo*: Few sheep; many dogs. *Wayne*: Numerous deaths of live-stock last spring. *Clark*: Epizooty common but not fatal. *Lee*: Scarce a horse escaped disease, but it was generally of a mild type.

LOUISIANA.

St. Mary: Horse-disease general but mild. *Tensas*: Epizooty mild. *Bell*: Large numbers of horses and mules exported. *Terrebonne*: Great increase of cattle ranging over abandoned plantations. *Caddo*: General decrease of live-stock. *Franklin*: Three-fourths of the pigs die of starvation or by depredations of wild animals.

TEXAS.

Cherokee: Horses decreasing; mules increasing. *Fannin*: Epizooty not more severe than a common distemper. *Johnson*: Horses depreciating through lack of attention in breeding. *Bell*: So many cattle exported that the home stock is almost exhausted. *Dallas*: At the present rate of depletion the herds of Texas cattle will soon be exhausted, leaving room for the profitable raising of finer breeds. Good opening for sheep.

ARKANSAS.

Montgomery: Wolves, wild-cats, and eagles destructive to sheep. *Craighead*: Horse-disease has just appeared.

TENNESSEE.

Williamson: Stock is improving in quality and diminishing in numbers. *Campbell*: Very few horses have died from the epizooty; where well stabled and cared for they have, in almost every instance, begun to recover in ten or fifteen days. Less hog cholera than usual; hogs generally healthy and looking well. *Madison*: Not enough stock raised to supply home demand; horses are brought here in large droves from Ohio and Kentucky, in February and March, and generally meet with ready sales. Cows very inferior milkers—giving two to three quarts when fresh; go dry three months. *Bedford*: Sheep and hogs are increasing in numbers, as farmers are taking more interest than formerly in raising them. *Carter*: The horse-disease raging, but not fatal. Some hogs are dying of cholera. *Bradley*: The horse-disease made its appearance December 10th; so far not a single fatal case. *Cannon*: The condition of stock very good, although the winter has been unusually cold. *Knox*: Horses and mules nearly all affected with the epizooty; very few have died. A warm stable, a dry bed, mild food, very gentle exercise, and avoiding exposure to wind and rain constitute the remedy here; very little medicine is given. No other disease affecting any stock. Sheep-raisers are now changing from the old, almost worthless, to the new and improved breeds. *Monroe*: So far, but few cases of epizooty have proved fatal. Oxen and other cattle have steadily increased in numbers, and with several importations of blooded stock, it is hoped they will improve in quality also. Native sheep have decreased, but some improved sheep have been purchased—a move in the right direction. *Sumner*: Not one animal in a hundred has escaped the epizooty; the fatality has been small, except among jacks and jennets; of these there has been a loss of at least one-third in the county. The disease has left many horses and mules in bad condition for the winter. As a rule, those animals that were given a generous and varied diet, without dosing, did much the best, even though they had no shelter. *Fayette*: Have heard of only one death from the epizooty. It is much more severe in jacks and jennies than either horses or mules. *Gibson*: Fourteen per cent. loss in

hogs from cholera. *Grauger* : Cattle, mules, and horses have increased constantly since the war. Sheep have decreased, as many have been driven to Kentucky and Virginia; though some of choice breeds have been introduced. *Hamilton* : No deaths from the epizooty where stock has been cared for. Sheep healthy. Some cholera among the hogs. *Robertson* : The farmers have a surplus of every kind of stock except sheep. *Stewart* : Horses and mules have steadily increased since the war. Oxen and other cattle have also increased in number, so that a great many farmers have more than they can take good care of. Not much hog cholera here the last twelve months. A good crop of corn the last two years has caused hogs to increase in numbers. There is but one man in the county of much means who tries to make a profit on sheep. Mr. James Woods, jr., has some 600 or 700, employs an English shepherd, puts up his wool in good order, and gets the best price. Others engaged in farming have a few sheep, but do not make that a specialty. *Obion* : Nearly all the horses affected by the epizooty, but none have died. *Davidson* : Stock looks well, but feed is becoming scarce. *Giles* : Increased attention would be given to the growing of sheep could we get rid of the worthless curs. No disease among cattle, hogs, or sheep. The epizooty mild among horses, but very fatal among jacks. A disposition among all classes to improve their stock of every kind; to cultivate less land, and to make one acre produce what two have formerly. *Fentress* : Mules, cattle, and sheep in better demand, and the surplus stock marketed. Numbers of breeding animals increasing. *Lauderdale* : Horses and mules nearly all affected with the epizooty; but few have died, and they were worked or unduly exposed. Some cholera among hogs has reduced the stock almost half. Cattle are doing well considering the hard winter. *Morgan* : Horses slightly affected with the epizooty; all other stock in healthy condition.

WEST VIRGINIA.

Jefferson : Only five or six of the horses attacked by the epizooty have died. Good nursing, and the smallest amount of medicine possible, (in ordinary cases none at all,) has proved the most effective mode of treatment. But few mules have been attacked by it; they appear to be less liable to the disease than their equine relatives. I do not think that any mules are being raised in this county. Cattle and sheep have gone into winter-quarters in fair condition—rather better than usual. An unusual number of sheep have been killed by dogs during the year. *Braxton* : The epizooty has come over our county like the falling of the dew. As yet but two deaths from it have been reported. The disease seems to be comparatively mild. This, I think, is owing to the elevation of the country, pure air, and sparse population. Beyond care, kind treatment, and good feeding, there has been but little application of medicine. Assafetida, with a little rosin powdered and sprinkled freely in their feed, has served to mitigate the cough. *Fayette* : Not many sheep have been killed by dogs, but a good many have been by wild animals. *Randolph* : The epizooty is prevailing among horses to a considerable extent, but does not often prove fatal. The people are affected with something similar, which I believe to be the same disease. Some few cattle are dying with the black leg. *Monongalia* : I cannot tell the number of sheep killed in the county by dogs, but would say that the sheep business has been almost abandoned on account of the great loss by dogs. *Kanawha* : In several places in the county we have had considerable loss in hogs by the cholera. Some have lost as many as twenty-six good killing hogs. The disease was not general, but confined to spots or places. Sometimes it would skip over five or ten miles, then confine its deadly influence within a space of two or three miles in circumference, and then pass over large districts to some other spot. We have also had something of the prevalent horse-disease, though it has been fatal in only a very few cases. *Cabell* : The horse-disease is now raging in the county. So far the deaths have been few in comparison with the number sick. The result has been to lessen the value of horses and mules.

KENTUCKY.

Butler : Large numbers of sheep have been driven from this county during the past year. Horses of a third rate are very abundant; also a small class of mules. *Jefferson* : The horse-disease has passed by and we have lost but few. This is owing to the care of owners, who have prevented the using of them during their illness. *Laurel* : The epizooty in a mild form has been very general among horses in the county. Very few cases have proved fatal. *Warren* : The number of sheep killed by dogs in 1871, 1,193; value, \$3,445. The number in 1872, 801; value, \$2,181. These statements are taken from the assessor's books for each year. The number of horses and mules in the county is greater than usual this season, since but few shipments have been made. The owners are holding them for the spring market, calculating that the prices will then be more favorable. *Anderson* : The winter, up to this time, has been remarkably cold and dry; so much so that stock in some parts of the county is suffering for water. The epizooty has been general in the county, among

horses and mules, but the fatality has been slight, only two or three horses having died. It has now about spent itself, most of the animals having recovered. I hear of a few cases of what seems to be the same disease among horned cattle. *Grant*: I did not send the former reports from the fact that the epizooty was so bad that we had no conveyance for some time. The disease is now about over and business is reviving. *McLean*: There has been no disease of any kind among stock, except horses, all of which have been affected with what is called the epizooty, but it has been very mild and I have not heard of a fatal case in the county. *Mercer*: With regard to the horse-disease which has been prevailing through the county, it has not been so fatal with our horses as it is reported to be in other States, but the mortality with jacks has been very great. *Metcalf*: The epizooty has prevailed generally during December. It did but little damage to horses and mules, but was very fatal to jacks. More than half of the jacks which were affected with the disease have died. It has now nearly disappeared. *Ohio*: The epizooty has been almost universal, but is subsiding; deaths few, but from the condition horses are left in, fears are entertained that they cannot stand hard service for some time. *Taylor*: The price of horses is low, owing to the limited demand at the south, and to the universal prevalence of the epizooty, which has put them in bad condition, but killed very few. The number of mules on hand is greater for the reason that but few have been sent south as yet, the disease and low-market rates causing the farmers to hold on for better prices. The cattle raised in this county are principally "scrub stock." *Spencer*: The epizooty prevailed only partially with horses and mules, none dying from it; but it has proved fatal to a number of jacks. *Boyle*: Ninety per cent. of the horses and mules have been affected with the epizooty, and are now fast recovering, the loss being only about 3 per cent., but over 50 per cent. of the jacks and jennets have been lost by this disease; very few of the former recover. The fear of dogs prevents increase in flocks. If owners of dogs were held strictly liable for the killing, or such a heavy tax levied and enforced against dogs and owners as to lessen the number of worthless curs, the number of sheep would be doubled very soon, and the cost of keeping them would not be felt by the farmers. *Owen*: The epizooty has prevailed in this county, but no deaths have resulted from it. The horses that run out to grass were affected but slightly, while those that were kept in stables or highly fed suffered the most. *Larue*: There is in our county a disease known as sheep-cholera, or scours, which has killed a great many sheep, mostly those under one year old. We would like to have some one find a cure and report it.

OHIO.

Coshocton: The epizooty seems to have been a benefit to the horses in the agricultural portions of this county. Coming, as it did, after the farm-work was done, the stables were put in good repair and unusually good care taken of the stock; so that at this date our horses are above an average in good condition. Nearly all the horses in our towns and villages had the disease; the only deaths reported were of horses of little value. No death has been reported among the farm horses and less than 50 per cent. of them were attacked, and that in mild form. *Franklin*: The epizooty is about over in this county. All young and healthy horses have come out of it well and sound, when not abused by their owners or drivers, and not maltreated by some veterinary quack. I have learned of several cases of steaming the head and neck of young sound horses, in each of which death ensued. Of horses which have had good care, corn-fodder and a little corn as food, have been kept warm and given only very moderate exercise, 99 per cent. have recovered. Where immoderate exercise has been given so as to heat up the blood and then take cold in cooling off, death has been the usual result. *Logan*: The partial stoppage in the shipment of horses last year, added to their relative numbers, has had a tendency to discourage breeders. The upward tendency in the wool market during the last two seasons, having caused a corresponding rise in the value of sheep, has nearly put a stop to the practice of fall-pelting for the pelt and tallow. *Trumbull*: We have had the horse-disease throughout our county. But few were lost; none where quietness and light use were observed. *Williams*: Farmers are pretty nearly all going into stock more heavily, especially horses and sheep. There has been a growing demand for both these classes; we have not quite kept up with that for sheep; for horses we have about held our own. *Crawford*: The epizooty has nearly subsided, very few horses have died. Very few mules in the county. Sheep are well cared for and the number larger than a year ago. Hogs very abundant and very cheap. *Lorain*: Horses got through with the epizooty better than was anticipated; only sixteen are reported to have died by it. Most persons are more careful in blanketing their horses than formerly. In that sense the disease has been a benefit. *Tuscarawas*: The short supply of the hay crop, in connection with the consumption of straw by a paper manufactory in the county, and the early setting in of winter, has caused feed other than grain to rule high in price, and a consequent reduction in the value of stock. *Hancock*: Horses passed through the epizooty all right, no case in this county proving

fatal; good care, plenty of feed, and moderate exercise being all the medicine required. Our crop of hogs is being diminished, from the fact that in the market pigs are worth more per pound than heavy hogs. The county is overstocked with milch cows, there being no demand for them. *Delaware*: Though sheep are not gaining much in numbers, they have gained in quality and health at least 10 per cent. over the last few years; "foot-rot" seems to have worn out. Hogs are also of better quality; although fewer in number, it is thought there will be considerably more pork made this season than last. *Erie*: Our horses are coming out of the epizooty all right; no deaths in the rural districts; a few only in the city. *Medina*: Stock, especially neat cattle, unusually low in price. The very cold weather gives our animals a ravenous appetite, and the farmers apprehend a scarcity of fodder. This is one cause of low prices; another is scarcity of money. *Morrow*: Owing to the scarcity and high price of rough food, cattle are not as high as last year; milch cows have depreciated at least one-third in price. The fever for sheep not as great as a year ago; considerable of the last clip on hand. Hogs in good demand, owing to the abundant corn crop. Stock generally look well. *Perry*: The shortness of rough feed has materially lowered the price of cattle, especially of young cattle. Last year the assessors' returns showed 237 sheep killed by dogs; not quite so many in the year just closed.

MICHIGAN.

Calhoun: After inquiry, I find that five or six horses in the county have fallen victims to the epizooty. Within three weeks after its first appearance it spread rapidly over the county, and for about two weeks horses were scarce on our streets. As a general rule horses have been kept from labor or exposure. This, with good care in a great majority of cases, has proved all the treatment necessary for a speedy cure. The only species of stock which maintains its standard of value, as compared with the past year, is sheep; oxen are stationary. All else has depreciated in value. *Wayne*: Excepting sheep, stock of all kinds is lower than last year at this season. *Washtenaw*: The price of beef \$5 to \$6, and of pork, about \$4.50 per hundred pounds. *Tuscola*: Sheep are high and in demand. Hogs are low in price. Pork-raising has not been a paying business for the past year. *Cass*: Feeding-time commenced earlier than for several years, and our winter has been so far very cold, with heavy snow. Cattle are doing well where properly cared for, as it has been dry. *Clinton*: In one instance all the sheep a man had—twenty long-wool animals, which he had taken great pains to procure—were killed by dogs. *Ottawa*: The horse-disease is yet very prevalent, but of a mild type; but few have died, and those of an inferior class.

INDIANA.

Gibson: The epizooty in nearly every stable. Cattle and other stock are generally healthy. *Grant*: There is some trouble among cattle, a kind of stiff rheumatism, which lasts about ten days. No deaths from it so far as I know. *Versailles*: The epizooty as yet has been in a mild form. It has proved fatal in but few cases, and those were old and broken down horses. A disease among hogs, known as hog-cholera, is prevailing in some parts of the county, but there have not been many deaths from it. I think that the death of hogs from other causes is frequently charged to hog-cholera. Flocks of sheep have been largely diminished this last fall by the butchers, but what are left are in fine condition; no disease among them, and none among the cattle. *Hamilton*: Horses are very cheap; cattle and hog-markets extremely dull. *Fountain*: Hogs are very fat and weigh heavy; all other stock is in fine condition except horses; they have suffered much from the prevailing distemper but are now, with but little fatality, rapidly recovering. *Lake*: In this county there is a considerable percentage over any previous year of all kinds of stock, with perhaps the exception of sheep. The extremely dry weather is very seriously affecting the farmers in procuring water for stock. Wells, never before known to fail, are giving out all over the county. *La Porte*: This county is well supplied with horses, mostly medium sized; the market for such is always dull at this season of the year, but in two months from now will be more active and prices 10 or 15 per cent. higher. The price of sheep has considerably increased during the year. Hogs are much lower than they were last year. *Martin*: The horses of all ages, as well as mules, in the county, have been subject to the epizooty, which has prevailed for the last two months, with very rarely a fatal case. Nearly all are now either well or improving. Something of a similar nature has prevailed during the same time among the people. *Franklin*: The only danger to horses and mules from the epizooty, from a relapse caused by working the animal too soon. Hogs are much below the cost of production. Price of product regulated by "rings;" ruling rates \$3.25 to \$3.50 per 100 pounds gross. Remedy: lessen the supply. *Scott*: About half of the horses in the county have, or have had, the epizooty; no case fatal. *Brown*: Scarcely a horse, mule, or ass in the county, but has been attacked with the epizooty; thus far but few deaths have occurred. This disease in

many respects resembles pleuro-pneumonia. The only remedy I know is, to keep the animals warm, and not overheat or overwork them. *Kosciusko*: The epizooty has prevailed all over the county, but no fatal cases where the horses were in good health and flesh when attacked. *Owen*: Horses have increased in number and decreased in price. Mules not sought, and therefore not bred the past year. Cattle have increased because of increase of pasturage. Sheep have decreased because sought for at tempting prices. Hogs healthy and at fair rates. No mast this year. Average supply. *Putnam*: The number of sheep killed by dogs the past year has been unusually large. *Stark*: Stock has suffered some in this county for the want of water, also from the severe cold weather where they were not provided with shelter, a great many having to lie in open fields on the snow. *Newton*: Very few sheep in this county. Some four years since our farmers were anxious to engage in sheep-husbandry, and a great many sheep were imported with foot-rot, which was communicated to the native sheep. Disease and the low price of wool induced the farmers to dispose of them. Cattle can be raised on our rich prairie lands at small cost. Prairie hay can be bought for \$2.50 per ton and corn for 25 cents per bushel. Railroad freights are the great drawback to successful stock and grain raising. But little attention has been given to improved breeds of horses and cattle. In the hog line we have the Poland, China, Berkshire, and Chester White. A great many hogs and cattle are annually shipped from this county.

ILLINOIS.

Cook: Our county is becoming overstocked and dairy products declining in price, and we have disposed of a share of our cows. *De Kalb*: There is a sensible increase in cattle, but a depression in price, as in the hay crop. Owing to the advance on wool, sheep are on the increase, and bear better prices. Milch cows are not as high as they were one year ago. Cheese making has become an industry in De Kalb County. Not less than 500,000 pounds of cheese have been manufactured the past season, which will give a return of at least \$60,000. *Madison*: The land in this section being all improved, there cannot be great changes in the number of animals, unless the agricultural system be considerably modified. The breeds, however, show some improvement on the old ones. *Stephenson*: The number of sheep within the past few years have materially decreased, but for the last year it has been kept up, since wool has advanced sufficiently to make the production a paying business. *Bureau*: Horses are low and sales few. Mules are increasing; sell higher than horses. Sheep are scarce; but few flocks in the county. Some are beginning to talk sheep again. Good milch cows with calf by the side, sell for from \$25 to \$50. *Effingham*: Stock has wintered well this far in all cases where they get water regularly. *Kankakee*: The number of cattle is diminishing on account of the want of outside range. Very few sheep are kept; the number of dogs discourages the raising of them, since they cannot with any safety be left in the pasture over night. *Boone*: Recently a farmer lost fifteen sheep, out of his flock of twenty-one, by dogs in one night. *Clin-ton*: The drought is unprecedented in this county. The difficulty of getting water for stock is great. The epizooty is prevalent; I think one hundred will cover the loss of horses and mules. As far as I have been able to ascertain all that have been bled have died. *Crawford*: Epizooty in abundance, but few fatal. Weather dry and cold, and water scarce. Stock have suffered in some parts of the county. *Lawrence*: The epizooty very light on the farm horses; very few deaths. *Marshall*: Owing principally to the lately prevailing epizooty corn was not all gathered. *Grundy*: Stock of all kinds generally in good condition. *McLean*: Almost every horse in this county has had the epizooty within the last month, but are now mostly over it. Not more than 90 have died, those being kept in cities, in close warm stables. Horses of considerable Norman blood, of which there are a good many in the county, are much higher than the average. Those weighing 1,100 pounds and upward have been shipped almost constantly from Bloomington, at an average of about \$135. Oxen and other stock look well, a large number being Texas and Cherokee cattle. Sheep healthy; look well. Long-wool and other mutton-sheep are receiving more attention. Hogs have been made unusually large and fine by plenty and cheap corn. *Hancock*: The horse disease has been general; the fatality has not been more than two per cent., and then attributable to overuse or bad treatment. Close observation and inquiry warrant the belief that blanketing and medicine do more harm than good, except in extreme cases. Care, abstinence from work, and allowing them to run loose where it can be done, have shown the best results. *Lee*: Cattle, sheep, and hogs are wintering well. The horses have generally recovered from the epizooty, and, so far as discoverable, it has left no bad effects. The people are complaining of low prices for produce and high taxes. *Ogle*: Nearly all the horses have had the epizooty; the most of them have recovered—a few died. Mild remedies, proper care, and rest, have proved to be the best treatment. Horses, cattle, and hogs continue low in price and of dull sale. Sheep have appreciated in value. *Sangamon*: The epizooty made its appearance in this county about the 30th of November. It has

shown itself here in a milder form than usual, or else the newspapers have made an unnecessary ado about it in the East; although perhaps every horse in the county has been affected, the fatality has amounted to almost nothing. *Fayette*: Sheep have not been destroyed to the same extent as in former years. *Franklin*: A large number of our most valuable cattle and sheep have been bought up and driven off. This reduces the average price per head, and makes lambs average higher than old sheep. *White*: We have had the epizooty all over the county; but it has nearly disappeared, with but trifling loss.

WISCONSIN.

Dodge: The epizooty has been prevalent, though few cases have proved fatal. *Juneau*: Horse-disease in full blast throughout the county; a number of cases have proved fatal; great success has attended the following treatment: when first taken give a half pound of common ginger in four quarts of bran once per day for two days; all horses fed in this way get over the epizooty in one week. *Portage*: Ninety per cent. of the horses in this county have had the epizooty; not more than ten have died; good treatment without medicine has proved the best remedy. *Green Lake*: Working oxen sold for high prices for a short time, but with the disappearance of the horse-disease cattle fell back to their old position; butter and cheese are low in the market, which makes cows slow in sale and dull in price; sheep are doing better; hogs are the most unprofitable animals on the farm, as pork sells now at \$4 per hundred pounds. *Richland*: Very cold during the last month; the thermometer has indicated 37° below zero; it has been very hard on stock, as the farmers have not got their sheds fixed up for them; pork, \$3.75 per one hundred pounds; beef, about \$2.50 live weight; red wheat, \$1.22; white, \$1.32; rye, 60 cents; and corn 30 cents per bushel. *Calumet*: About one-third of our cattle are of improved blood; they bring a better price by one-third than those of common breeds; the same is true of the improved breed (Cotswold) of sheep; according to the assessor's table there are in the county 3,099 horses, 55 mules, 10,467 cattle, 9,906 sheep, and 6,671 hogs. *Jackson*: Durhams, when over half-blood, bring fully double price, either for beef or stock. The same is true of South Down or Cotswold sheep. Money matters worse than in 1860. *Adams*: Beeves are worth about 3 cents per pound live weight.

MINNESOTA.

Blue Earth: Horses all sick; not more than 1 per cent. of the cases fatal. Cattle are not wintering very well. *Faribault*: The epizooty prevails; few if any horses escape it. Those horses and colts which are allowed to range the fields during the day and are stabled nights have the disease lighter and do better than those which are stabled all the time and well cared for. Not many losses from the disease in the county. *Murray*: The percentage of sheep, cattle, and horses is greater on account of the rapidly increasing population; it more than doubled in 1872. *Nicollet*: The epizooty prevails universally, but very few horses die with it, unless they are exposed or have a relapse. *Steele*: This county has no superior for stock-raising and dairy purposes, and farmers are giving more and more attention to these branches. *Winona*: Good working oxen have advanced 25 per cent. within a short time, on account of the horse-disease. *Sibley*: All cattle have done well the last year; very few have died from disease.

IOWA.

Poweshiek: A great many hogs have died from the hog-cholera. *Story*: The prices of horses and mules rule low just now, on account of the epizooty which is raging, but with no great fatality. *Guthrie*: The number of sheep killed by dogs is not large. If a dog worries stock of any kind he is generally killed; our law gives that privilege. Cholera has thinned the hogs to a considerable extent, and the low prices—\$2.50 to \$3 per hundred—has discouraged many hog-raisers; but there is a marked improvement in the breeds. Our horses are having the epizooty very lightly; but few fatal cases. Those running out in pasture seem to do better than those kept up. *Muscatine*: The epizooty has about run its course; very few cases fatal. Rest, keeping them warm, and good feed seems to be about all the treatment required. Horses are plenty and no sale for them. This county being noted for its speedy horses, mules are not much in use; yet if true economy were practiced there would be many more of them. I am fully convinced that "the best horse for all work is the mule." With a slight increase in cattle, prices tend downward; all are doing well. Our winter, until recently, has been dry and cold; once 30° below zero; but by abundance of feed and good shelter, their backs have been kept flat. In some sections a scarcity of water causes an increase of care. Milch cows are more in demand. Butter and cheese will receive more attention, and cereals less. Sheep are very much sought after. Hogs in almost any amount; Poland, China, Chester Whites, Berkshire, Cheshire, Suffolk, Essex, and all the varieties of crosses that can be thought of. A disease in the northeastern part of the county is causing much

alarm. It is generally called "cholera," but from the symptoms described I am of opinion that it is an anthrax fever. Some are killing their "stock hogs" and running them into market. *Iowa*: Cattle and hogs are healthy and looking well. The sheep in this county are generally herded in large flocks on the open prairie during the day, and put in pens at night. The epizooty has prevailed in a mild form almost universally among horses and mules; a few have died. *Lee*: The decrease in the number of cattle in this county is owing to the fact that during the fall we sold to drovers five times as many, principally steers, as we ever sold before, at an average price of four cents per pound. *Louisa*: The epizooty has been quite general, but as yet no deaths. All kinds of stock are in first-rate condition. The low price of corn and of hogs has a tendency to make dull times. When it takes three and a half bushels of corn to get one to market, we feel that it does not pay to raise it. *Appanoose*: In this county the sheep are thinned out for mutton, and unless a change takes place this branch of husbandry will soon be lost sight of here. *Cass*: We are in the midst of the epizooty, but have heard of no deaths. *Delaware*: The epizooty, in mild form, raged here through December, and scarcely a horse escaped. Probably not over twenty have died from it. *Hardin*: The large increase in milch cows is explained by the fact that several cheese factory companies have been organized, for the supply of which cows have been purchased in other sections. *Logan*: The epizooty is prevailing extensively, but not fatally. The price of horses has perhaps somewhat declined. The quality of stock in horses, cattle, and hogs is being improved. Cattle and hogs are the main sources of profit to the farmer. The number of sheep continually decreases, and is likely to, since the law requires them to be restrained. *Johnson*: The epizooty has come and gone, and few horses have died. Horses are now in good condition. Wolves have killed quite a number of sheep during the year. *Linn*: Prices of live stock are depressed. Oxen are scarcely used for work at all, and are worth what they will bring on the scales. Mules are slowly making their way into favor, and are being raised a little more from year to year. *Montgomery*: The epizooty has prevailed the past month—fatal in but few cases, say five or six in the county. *Floyd*: Epizooty very light; not a death within my knowledge. *Howard*: From December 19th to the 26th the cold was hard on stock, reducing the percentage of all kinds exposed. *Pottawattomie*: The decrease in mules is owing to an increased sale the past year for Texas railroad purposes. *Tama*: The epizooty is having its course; not fatal in many cases. Horses have increased in number but diminished in price. Stock hogs are scarce but low in price. Cholera has killed 25 per cent. of all the hogs, old and young. Fat hogs have ranged at \$2.75 to \$3 per hundred, gross. "Chicken-cholera" has proved fatal among turkeys and chickens. *Scott*: The epizooty has passed over, and from the rest and good care it occasioned has apparently left the horses in better condition than before; but few have died. Sheep husbandry is nearly abandoned here. *Mahaska*: Horses have all suffered from the epizooty; but few fatal cases. They are recovering rapidly. Hogs have died in large numbers from cholera or kindred diseases. Cattle are healthy. *Plymouth*: The epizooty is now prevailing; no horses have died save overworked ones. *Winnesick*: Probably 90 per cent. of the horses in the county have had the epizooty recently, but not more than 1 per cent. have died. We think it has been demonstrated in this vicinity that horses which were exercised regularly, and even worked with discretion, have fared better than those that were nursed too tenderly.

MISSOURI.

Barton: Stock suffering for water. *Caldwell*: A moderate increase of stock of all kinds. Some calves and yearlings have died of a disease about which opinions differ. Many young pigs died in August, September, and October, of some lung disease, attended by a hacking cough. *Clinton*: Many horses now have the epizooty; no deaths reported. All other stock healthy. *Platte*: The epizooty prevails extensively among horses and mules; only one death heard of. Otherwise stock of all kinds in good condition. No demand for stock except cattle and hogs; the latter on the decline. *Adrian*: The epizooty almost universal among horses and mules; not more than 3 per cent. of the number attacked have died. *Harrison*: The epizooty raging, but not fatal. *Washington*: The epizooty has appeared within a few days, in a mild form, but the cold and wet weather is unfavorable. Many oxen were shipped from this county to Saint Louis during the prevalence of the epizooty there. *Iron*: The epizooty among horses, but very mild; only a few deaths. *Marion*: Horses and mules generally affected with the epizooty; not many fatal cases. *Pike*: Horses and mules all have the epizooty at this time. Cattle very healthy. As wool is high, sheep have increased and received a better attention. Fat hogs very low; selling at \$3 per hundred, live weight. *Greene*: The horse-disease at its height; have heard of no dangerous cases. *Stone*: The condition of horses, mules, sheep, and hogs, better than at this time last year; of cattle, not so good. *Newton*: The epizooty here in a mild form; seldom fatal. The health of other domestic animals good. *Carroll*:

The epizooty has temporarily disabled a great many horses; deaths very few Cattle, sheep, and hogs doing well. A few isolated cases of hog cholera *Lincoln*: The epizooty appeared about the 1st of December; in a few days almost every horse in the county was infected; only 2 deaths heard of. *Perry*: The epizooty, of a mild type, in full blast. In this county the cattle are generally of the scrub breed; very few of improved breeds. The price of hogs very much depressed. *Lawrence*: The epizooty raging, but not fatal. *Nodaway*: The number of sheep is believed to be decreasing, owing to the numbers killed and to disease. *Sullivan*: Epizooty prevalent in a mild form; no fatal cases reported as yet. *De Kalb*: The horses are now afflicted with the epizooty; have heard of only 2 deaths. In its western course its severity is mitigated. *Pulaski*: There seems more disposition than formerly to improve the breeds of sheep and hogs. *Marion*: Horses have suffered some from the epizooty, but scarcely any mortality. Nearly all kinds of stock in bad condition for winter, but cattle very healthy; sheep generally so; hogs lousy and looking bad. All kinds of fowls have suffered from the extreme cold weather. *Moniteau*: The epizooty has swept over this county without any damage; stock looks well. *Taney*: More sheep have been killed by dogs and wolves (mostly by wolves) in 1872 than for five years before.

KANSAS.

Republic: Sheep have been moved farther west. Some talk of bringing in sheep from Missouri. *Crawford*: The epizooty has much reduced the prices of horses and mules. *Doniphan*: The epizooty rapidly extending over the county; few fatal cases, but a general stagnation in moving farm produce. The heavy crop and low price of corn will give an impetus to the stock interest. Although the price of beef and pork is low, farmers generally find it more profitable to convert as much of their grain and other crops as they can into these articles, as they are thus in a shape to be nearly always turned into money, and require less labor and expense in moving. The sheep interest in this county, now scarcely worth mentioning, grows less every year. *Jefferson*: The large increase of cattle is due to the bringing in of Texas cattle by farmers generally, to consume the large surplus corn crop. All stock low in price on account of the extreme scarcity of money. *Centralia*: About two per cent. of yearlings and one per cent. of two-year-olds have been lost by black-leg. All kinds of stock were taken off the ranges fat last fall, have been well cared for, and look remarkably well. *Cherokee*: The horse-disease has been very general, but mild; few remedies used, except good treatment. Most farmers in the county are disposing of their Texas cattle and raising more domestic breeds. The average grade has improved in quality 25 per cent. within the last two years. *Lincoln*: A few droves of Texas cattle are being wintered here, and for that reason the number of oxen and other cattle has fallen off since January, 1871. The number of milch cows is steadily on the increase. Sheep have also been brought in plentifully, and the probability is that within the next six months they will double in number, since a number of sheep men from Iowa are coming with their droves in the spring. *Sumner*: The low price of cattle is attributable to the fact that much of our stock is Texan. Hogs are worth 5 to 7 cents per pound; work-oxen \$10 to \$80 per yoke. *Dickinson*: The epizooty, in a mild form, is general; very few deaths. *Marion*: A great many Texas ponies in the county make the average price of horses quite low. A great step has been taken to improve the cattle in the county; there have been brought in, by two parties, sixty or seventy fine short-horn bulls, some of them splendid animals, valued at \$3,000 each. *Osage*: The mules and sheep in this county are too few to enumerate. Horses and cattle are all lower in price than last year. *Morris*: Stock of all kinds a little lower than one year ago. *Atchison*: Horses have declined in price since the epizooty broke out. Cattle declined in the fall on account of the Texas fever; but that having abated, the demand and price are now increasing. *Labette*: We have a better stock of horses in the county than a year ago. The old scrub-ponies are disappearing, and improved breeds are being brought in to fill their places. On account of the epizooty reaching our county, the price of horses has fallen 20 per cent. within the last two months. The increase in cattle has been nearly one-third greater than last year, principally in cattle driven in from Texas since cold weather set in. The cattle in this county were freer from disease the past season than ever known before; did not hear of a single case of Texas fever, or any other fatal disease. This is owing to the fact that the legislature of this State, last winter, passed a law which forbids all kinds of domestic animals to run at large, unless under the care of a herder, to go into effect in each county whenever it so voted. This county adopted it, and that law was the means of keeping the Texas fever out of the county. No cattle were seen roaming over our many acres of unclosed prairies, and occasionally breaking into our inclosed pastures and spreading disease among our native stock. Now that farmers are compelled to keep them from roaming at large, they fix better pastures and take better care of them. *Montgomery*: The epizooty is prevailing extensively, but hardly ever fatal. The great increase in the percentage of horses and cattle is due mainly to immigration. *Sedgwick*: Under our system of herd-law, there are few horses and cattle raised; supply from Texas, do-

mestic cows, \$40 each; Texas, \$20. *Bourbon*: The horse-disease is general; few deaths. *Linn*: Have heard of but three deaths from the epizooty in the county. Stock hogs have been in great demand. *Butler*: A good deal of sickness among horses. Stock hogs are worth 5 cents per pound; dressed pork the same. For the first time in this county, farmers are stall-feeding cattle. *Cowley*: The epizooty is here in a mild form. Sulphur, relaxing food, and good attention is all the treatment needed. *Lyon*: The epizooty, in mild form, prevailing generally among horses and mules; some mortality in cases where the animals were driven while sick. *Washington*: The prices of horses and cattle have been depreciated by the epizooty and scarcity of money. The low price of grain has made a demand for stock hogs. With one of the best sheep-raising regions in the world, we still have no sheep, and farmers find that it takes all the grain they raise and half the farm, at present prices, to clothe their families. The great want of this county is sheep and wool. *Smith*: This being a new-settled county, the increase in stock is large. Improvements are going on rapidly, and the county is bound to become an important one in a short time. *Jackson*: Milch cows have depreciated in value more than any other class of stock.

NEBRASKA.

Merrick: The epizooty in full force; no deaths. Sheep are doing well. This is a splendid country for the production of wool, though we have small flocks at present. *Lancaster*: All the horses affected with the epizooty in a mild form; they get over it in eight or ten days. Have heard of but one or two fatal cases. *Gage*: The horse-disease raging, but light compared with other places. *Parnee*: So far as heard from, only one horse in the county died from the epizooty. One-year old stock hogs sell for \$1.75 per hundred; fat hogs for \$2.50. *Cass*: Scarcely a horse or mule in the county has escaped the epizooty, but few cases fatal. *Johnson*: The epizooty has visited this county, but, so far as heard, no case has terminated fatally; but very little treatment is resorted to. The fall rains kept the pastures in good condition for grazing, until quite late in the season; consequently all horned cattle went into winter quarters in good condition, and they continue so. In consequence of the enormous yield of corn this season, and the very low price for the same, every hog that will make pork at all will be fattened for market. *Nemaha*: The epizooty has proved fatal in but very few cases, and those generally where other disease prevailed with it. A large surplus of horses in the county, and no market for them; mules increasing rapidly in number and quality; number of horses in the county, 3,949; of mules, 351; of cattle, 7,780; of hogs, 14,409; of sheep, 1,632. The most of the latter have been brought in recently. *Boone*: Cattle generally look well; no corn, but plenty of hay.

CALIFORNIA.

Del Norte: Stock in good condition; good work-oxen worth \$150 per yoke. *Plumas*: Cattle and horses in good health; few sheep kept in this county. *Napa*: This is not a stock-raising county; our products for market almost exclusively wheat and wine. *Alameda*: Stock of all kinds looking better than usual at this season. *Placer*: The horses in this county have been much improved; those now bred are from the very best stock; mules are coming into more general use; oxen and other cattle are only raised in our county for use, not for market. Sheep are a source of large wealth to our county and are on the increase; they are considered the most profitable stock raised. Hogs suffered the past year from hog-cholera; fully 25 per cent. died of that disease. *Sonoma*: The decrease in cattle is owing to the past unfavorable season, which caused stock-raisers to reduce their herds—many ranges having been overstocked. The same cause has lowered the prices of stock. *Sacramento*: Our stock of cattle and hogs has been much reduced in numbers the past year on account of the abolition of our fence laws, requiring owners of stock to pay all damages from trespasses on lands not fenced. *Amador*: Sheep are always herded and the loss by dogs is very small. *Mendocino*: A great change in the number and character of our horses within a few years; the old Spanish stock has been well-nigh exhausted, and a much better has taken their place, but in much smaller numbers. *Kern*: Sheep-men have been improving the stock the past year; large importations from Vermont and New Hampshire.

OREGON.

Union: Crossing American with Indian horses is becoming quite a business and will prove remunerative. *Clackamas*: Cattle are doing well as yet without other shelter than that of timber. There is a small decrease in the number of horses owing to the fact that many are bought up in this and the adjoining counties for the California and territorial markets. *Grant*: Our farmers are gradually getting rid of their poorer stock of horses and introducing those of superior blood. We have now in the

county two fine stallions, one a thoroughbred, sired by Lexington, imported from Kentucky, and valued at \$1,500; the other a four-year old colt, Morgan on the one side and supposed to be Hambletonian on the other, valued at \$2,500. No disease among horses in the county. *Lane*: The sheep interest has declined somewhat within the last two years. *Clatsop*: The fall and winter, so far, have been very favorable for stock; no feeding done yet, (December 21.) Prices of live stock about the same as last year; grain and vegetables some lower. *Benton*: All kinds of stock doing well; prices of stock have declined from 10 to 20 per cent. since last spring. *Multnomah*: Stock of all kinds in good condition; feed plenty. No disease among the cattle, sheep, or hogs, and no epizooty among horses. *Douglas*: Neat stock of all kinds, except working oxen, (of which there are not more than 6 or 8 teams in the county,) are increasing in numbers, but not in value as compared with last year. Sheep are some higher than last year and in active demand. In one of the smallest precincts 200 sheep were killed by dogs; so many dogs are a curse to wool-growing. Hogs are on the decrease; farmers get rid of them as they go into wool-growing. *Tillamook*: Sheep have done well the past year. Dogs do not kill our sheep; we keep a good many hounds to run the panthers and wolves; if we had no dogs we should very soon have no sheep. *Marion*: There is no perceptible desire to extend the breeding of horses for profit; cattle and sheep receive much more attention. The prices of cattle generally are declining by reason of large numbers being brought into the State from Texas. Attention is now turned more to sheep than to any other stock, and prices are stiffening in consequence. Stock is generally looking extra well for the season.

COLORADO.

El Paso: Stock doing exceedingly well; game plenty, especially the buffalo. The absence of the raven and magpie a remarkable feature of the winter. *Weld*: About one-tenth of the cattle in this county are from Texas. *Douglas*: All stock in good condition; fat cattle and sheep taken constantly from the range by the butchers.

UTAH.

Beaver: Sheep being kept on the public domain without shelter; many of the spring lambs die during the cold storms—about 10 per cent. of the whole number. *Kane*: Horned cattle are raised mostly for the beef-market in the mines, and having had good ranges both for summer and winter, they have paid extremely well. Sheep have done well; heavy fleeces and well fattened on the range. Hogs are not allowed to run at large in this county, but there are some as fine varieties here as can be found in the Territory.

DAKOTA.

Lincoln: There seems a disposition among farmers to sell their cattle and pay more attention to hogs. This is on account of the herd law, which compels us to herd cattle the whole year.

ARIZONA.

Yuma: All stock are in fine condition.

MONTANA.

Lewis and Clarke: For the first time in the history of Montana Territory beef-cattle are being driven to the line of railroad in Utah for market.

IDAHO.

Nez Perces: Only hear of one flock of sheep in the county. Horses have been doing pretty well without any feed; cattle not so well.

NEW MEXICO.

Mora: Heretofore mules have not been an item of production in this county, but Mr. Enoch Tipton, an enterprising farmer, is now turning his attention extensively to the raising of them.

WASHINGTON.

Thurston: Hogs are exported in large quantities to Victoria, British Columbia, and dressed beef, mutton, and salt meats to milling towns.

EXPERIMENTS WITH FERTILIZERS.

Seneca County, New York.—In the fall of 1869 I purchased three barrels (about 700 pounds) of Croisdale's superphosphate, at the rate of \$60 per ton. This I applied to

wheat at the rate of 100 pounds per acre. I used the "Farmers' Favorite" drill with fertilizing attachment, which conducts the fertilizer through the drill-tubes into the ground in immediate contact with the grain. I seeded with timothy at the same time. The wheat crop was apparently benefited 20 per cent., and according to our best judgment the grass crop that followed showed an increased yield of 25 per cent.

To ascertain the effects of the superphosphates in subsequent experiments, here alluded to, I repeatedly crossed and recrossed the fields with the fertilizers shut off. In the fall of 1870, between the 7th and 15th of September, I put in about thirty-eight acres of winter wheat; six acres were on raw ground, moderately manured from sheepsheds and the barn-yard, and summer-fallowed; eighteen acres on clover and timothy sod once turned and afterward cultivated; and fourteen acres on oat-stubble well worked. Upon a part of the latter some manure was drawn and about 150 bushels of ashes, the major part unleached. These manures were evenly spread and plowed under, not covering more than five acres. When ready for seeding, I applied to the six acres of summer-fallow and to the larger part of the oat-stubble ground a mixture of seven parts of ashes to one of common salt, at the rate of $2\frac{1}{2}$ bushels per acre.

Upon the remainder of the oat-stubble ground and upon the sod-ground, I applied gypsum at the rate of $2\frac{1}{2}$ bushels per acre. The long-continued drought prevailing at that time had caused the earth to be as nearly destitute of moisture as it could be, inasmuch that not a few farmers sowed portions of their fields the second time. Under these circumstances, the immediate effect of the fertilizers was to delay the germination of the wheat. Hence, that sown on the plots with the fertilizers shut off came up first, and for a time looked the most promising. But in due time the fertilized portions came up with a strong plant and with a much darker shade of green. This difference in stock and strength of color continued, with slight variation, until the ripening commenced, and from that point until harvested, the fertilized portions could be distinctly discerned by the clear, white straw; that on the unfertilized strips, particularly of the Lancaster and Treadwell varieties, being more of a weather-beaten color. The excess of well-matured grain on the fertilized portions was so apparent that I collected a bundle of each, (fertilized and unfertilized,) growing only the width of a drill-mark (eight inches) apart, and threshed them separately. I found the quality of the grain decidedly in favor of the fertilized wheat.

The total yield of the 38 acres was 1,160 bushels, 20 per cent. of which, I think, was due to the fertilizers thus used; gypsum giving the largest per cent. of increase and producing the most lasting good effect. This year, 1872, I have taken from the same ground a crop of red clover, and subsequently a crop of clover-seed. The increase in each clover crop, where the gypsum was used, was at least 50 per cent.; some of my neighbors estimating it much higher. The difference was not so marked where ashes and salt were used.

In the falls of 1871 and 1872, respectively, I applied to my wheat-fields, at the rate of two bushels per acre, gypsum and salt mixed in the proportion of three bushels of the former to one of the latter. Although the drought of 1871 held through the winter and up to near the time of harvest, causing almost an entire failure of the winter-wheat crop in this vicinity, yet very much of the wheat I did have was traceable to the use of the aforesaid fertilizers. How the crop now on the ground will be affected, remains to be seen. A mixture of salt and gypsum applied in this manner tends to keep worms from the root of the plant, and I incline to the belief that it is a preventive of smut. I use the same application upon my corn-ground before marking and planting; also upon oats, except when sown on corn-stubble, in which case the previous treatment is deemed sufficient. From results thus far, I conclude that salt and gypsum introduced into the ground along with the seed, in the foregoing manner, are quite as effective fertilizers as any in this market, and much the cheapest.

Superphosphate retails, in this market, at \$60 per ton. Sixty dollars will buy 12 tons of gypsum, or $4\frac{1}{2}$ tons of salt, or 6 tons of the mixture. My farm, the place of these experiments, lies in Seneca County, New York, between Cayuga and Seneca Lakes, about 600 feet above the latter, and 1,100 above tide-water. The soil is a strong clay loam mixed with sand, gravel, and disintegrated rock, known as the Genesee slate group. The primitive forests were very heavy, consisting of white, red, black, and yellow oak; maple, basswood, black walnut, hickory, white ash, elm, and a few other varieties.

A FRUITFUL VARIETY OF BUCKWHEAT.

Jackson County, Iowa.—The silver-hull buckwheat sent here by the Department of Agriculture, has proved to be wonderful—7 pounds of seed yielding 35 bushels of beautiful buckwheat, the weight of which is considerably greater than that of the kind ordinarily sown here.

TEXAS CATTLE-DISEASE.

Appanoose County, Iowa.—In August last, one of our shippers brought in 150 Texas steers and grazed them a few weeks, after which, at the solicitation of parties owning stock in the neighborhood, they were shipped East. The result was that nearly 200 native cattle died on that range before frost.

CORN FOR FUEL.

Nemaha County, Nebraska.—As corn is only 12½ cents per bushel it will not pay for marketing. It is being fed extravagantly, as well as being used for fuel.

AGRICULTURAL CHANGES IN OREGON.

Clackamas County, Oregon.—The luxuriant grasses of former days in Willamette Valley have been eaten out to a very great extent, and stock-raisers are compelled to drive their cattle east of the mountains to find grass sufficient to make the business profitable; many have been driven from this county. A principal reason why hogs have decreased in numbers is the lack of suitable range. In former years we had annually heavy crops of acorns. There was also growing in great abundance, in marshy lands, a kind of root or bulb called by the Indians "camas," (*Camassia esculenta*), of which hogs were very fond. Cultivation and the hogs have conspired to root out the camas, and the acorn crop has failed for the last fifteen or twenty years; why I cannot tell. Moreover, before steamships and railroads were the order of the day in this country we had no market for our surplus wheat; the best we could do was to turn it into bacon, then haul that to the mines. But now these things have all changed; the oaks bear but few acorns, the camas are about all gone, steamships and railroads carry off our surplus grain, and hog-raising does not pay.

RUSSIAN MINERAL PHOSPHATES.

The following is an original translation of an account of the deposits of phosphate of lime in Central Russia, by Alexis Yermoloff, in the *Journal d'Agriculture Pratique*:

Since the great importance of phosphate of lime has been demonstrated by science and in practice, increased interest has been given to the discovery of beds of this precious material. Hence we have decided to break the silence hitherto kept in regard to the Russian deposits, and beg herewith to lay before the reader a succinct account thereof.

The geologists who explored Central Russia in the first half of the present century remarked the presence of a dark uncrystallized stone, the origin and character of which seemed unknown, and which some of the most eminent, such as Sir R. Murchison, called simply a ferruginous mineral. Around the towns of Koursk and Voroneje these curious deposits were studied with care. Although the stone had been used from time immemorial for building and paving, it was only in 1858 that the first analysis of it was made by Professor Chodnef at St. Petersburg.

This analysis showed the stone in question was composed of phosphate of lime and magnesia joined with the oxides of iron, alumina, and silica. Shortly after, Claus Guillemin, a French engineer, and many other less distinguished chemists made new analyses of this stone, the results of which agreed on the main point of the uniform presence of a large quantity of tribasic phosphate of lime. In 1866, Professor Engelhardt, of St. Petersburg, was invited by the government to explore these deposits, to which public attention had been just called, and determine their extent and richness. From these investigations, in which the writer had the honor to assist, we possess more precise notions of the extent, character, and geologic conditions of the fossil phosphates of Russia, which I am certain will be interesting to your readers.

The rock in question is known in Russia under the name of "samorod," or natural stone. It is most common in the cenomanien beds or formation of greensand, but occurs likewise, though in smaller quantities, in the Jurassic, tertiary, and even in the silurian. In the cretaceous formation the beds are commonly below the white chalk; elsewhere it is discovered above the greensand, containing a quantity of green grains of silicate of protoxide of iron, known under the name of glauconic. In other places nodules of phosphate are found on the surface of the soil, scattered in masses through the arable land. In Middle Russia the cretaceous formation makes a sort of basin, of which only the north side has been explored, and it is precisely where it gives place to the Jurassic and Devonian, that the richest deposits are found.

The extent of country between the Dniaper and the Volga embraced in the principal phosphatic zone is immense, including not less than 20,000,000 of hectares. It is difficult to form an idea of the riches locked up in this deposit, which is however not the only one in Russia. So many other beds have been discovered that we do not believe it an exaggeration to say that Central Russia rests upon enough phosphate of lime to supply Europe, so inexhaustible are the supplies of this article. The western

border of the central bed lies in the southern part of the government of Smolensk, near the railroad from Orel to Riga. From this point the phosphatic beds extend almost without interruption through the governments of Orel, Koursk, Charkoff, and Voroneje, their principal outcrop being not less than 600 kilometers in length, with a breadth of from 100 to 200. South of this zone the bed dips to a depth too great to permit its being worked, but it re-appears on the southern boundary of the cretaceous basin, as is shown by the explorations, still incomplete, which have been pushed in that direction. To the north of Voroneje it disappears entirely, giving place to the lower beds of the formation, but is seen again between Tambof and Spask for more than 200 kilometers, and on the east, on the right bank of the Volga, in the governments of Saratoff and Simbirsk. The country between has not been thoroughly explored, but there is reason to believe that phosphates crop out in several places. Their presence should also be expected south of Voroneje, beneath the white chalk that forms the shores of the Don. Other beds more or less abundant, but little known as yet, are found in Moscow and Nijni Novgorod; also in West Russia near Grodnow.

The scientific researches of Professor Schwakhoefer, of Vienna, have established the existence of phosphate of lime in the silurian schists of Podolia, along the Dniester, where it assumes the shape of great balls; and finally, in the Devonian formation of Novgorod, has been discovered a rock containing not less than 12 per cent. of phosphoric acid. Every day new beds are reported, and all the searches hitherto undertaken have been crowned with success; and doubtless many deposits remain unknown that will be found sooner or later. The condition of the phosphate varies much, as well as the thickness of the beds and their depth beneath the surface, but the chemical composition is pretty uniform. It usually presents itself under the form of nodules similar to those found in the Ardennes, of different sizes, black, brown, gray, green, &c. Sometimes, as in the neighborhood of Koursk, Varoneje, and Tambof, it assumes the form of schists, and is seen in massive blocks that look like cut stone, which are, however, only an agglomeration of large nodules united by a sort of cement; and it is chiefly this form in which the stone is employed for building and paving, the scattered boulders, which are usually less hard, not having at present any value for such purposes. The number of layers in a bed varies from one to three, in some cases as many as seven, but only one or two are of importance, the rest being merely seams. The thickness of the main layers varies from one-fourth to one-half meter, the nodules being mixed with gray or yellow sand. Sometimes it is on the surface of the fields, and sometimes several hundred feet below. It is everywhere remarked that on the outside of the region of phosphates the beds crop out, but in the middle they lie deep.

Our knowledge of its chemical composition is tolerably precise, thanks to the large number of analyses which have been made of it, the results of which exhibit remarkable uniformity, and establish the mean of phosphoric acid at about 20 per cent., varying from 12 to 33; while the proportion of lime rises from 18 to 50, and carbonic acid from 2 to 6 per cent., together with an irregular mixture of sand, clay, and organic matter not affected by the acids. The following table will give some idea of the different samples, and illustrate their richness:

No. I is the debris of a block of the phosphate from the environs of Koursk, (analysis by Professor Claus.)

No. II, nodules from Spask, (by the writer.)

No. III, the same, (by the writer.)

No. IV, debris of a block from one of the richest beds of the government of Tambof, (by the author.)

No. V, fossil-bone from the same bed, analyzed by the students of the agricultural institute at St. Petersburg.

No. VI, fossil-wood found in the neighborhood of Spask, in the beds of phosphate, (analysis by Professor Engelhardt.)

No. VII, nodules and organic debris from the beds of the government of Orel, (analysis by students of the institute.)

No. VIII, for comparison, analysis of a nodule from the Ardennes, near Deherain.

	I.	II.	III.	IV.	V.	VI.	VII.	VIII.
Sand and clay	50.00	9.50	59.70	35.50	1.45	0	7.10	33.40
Phosphoric acid.....	13.60	27.45	12.63	20.26	31.76	35.23	29.84	20.60
Carbonic acid.....	3.45	3.95	1.98	.....	.....	3.44	6.06	.....
Sulphuric acid.....	0.86	1.08	0.44	0.85	.....	.....	1.39	.....
Lime	21.00	42.00	18.54	29.07	48.53	51.90	47.99	22.50
Magnesia	0.65	0.40	.....	.....	1.48	.....	0.47	3.00
Oxide of alumina and iron	2.20	3.19	.....	3.47	0.32	1.15	0.89	3.50

It is estimated that the beds of the central zone—that is to say, near Smolensk, Orel, Koursk, and Varoneje, contain not less than 44,000 tons to the hectare, while those of the government of Tambof, which I consider the richest, will furnish from 50,000 to

70,000 tons to the hectare. Admitting the ton only contains 150 kilograms of phosphoric acid, this calculation will give us a mean of 15,000 to 20,000 tons of phosphate of lime per hectare, and this is based upon the contents of the principal beds only, without counting the thinner seams. I would not tell the whole truth, for fear I might be accused of exaggeration.

The localities in the neighborhood of the towns of Roslawl, (government of Smolensk,) and of Briansk, (government of Orel,) present the most favorable conditions to obtain the phosphates which there appear on the surface; but the beds of the eastern zone, and of Spask-Tombof, are the richest and most abundant, while the central zone, extending from Kursk to Varoneje, represents a medium between the other two formations.

All these regions are traversed by railways, of which the most important are the lines of Charkof-Koursk-Orel-Moscow; of Voroneje-Moscow, and Voroneje to the sea of Azof; of Saratoff-Tambof-Kosloff-Moscow; and that of Volga-Griassè-Orel-Smolensk-Riga, to the frontier.

Notwithstanding the enormous distances, transportation does not present much difficulty, especially if those beds are worked which lie nearest the sea-ports, such as those recently found in Podolia and the government of Grodno, of which we possess specimens sufficient to establish their value, though they have not yet been closely examined.

These great deposits were hardly discovered when their development commenced. At present there are three establishments, two in the government of Koursk, and one at Riga. This last receives the raw material from Smolensk, reduces it to powder, and in spite of the high price it charges (viz, 9 francs per 100 kilograms) sells a considerable quantity to the proprietors in the Baltic provinces. The factories in Koursk have received government aid to the extent of 40,000 francs, but owing to want of skill and credit one of them is already in process of liquidation; the other, which commenced about a year ago, has been managed to much better advantage, although it charges too much for its products, viz, 5 francs per 100 kilograms, bagged and delivered at the factory. The quality of the article is excellent, and if means can be found to reduce the price, not only will the sale be much more rapid, but the profits greater, as the phosphatic rock costs only about from 3 to 6 francs the ton at the quarry.

It only remains to add, that notwithstanding the value of our phosphates, and the importance of manure to the Russian farms, impoverished by exhausting culture, our agriculture has scarcely begun to profit by them. Our rural inhabitants are slow to adopt mineral manures, accustomed as they have been for ages to the use of farm-yard dung alone, which has now become too scarce and costly to re-establish the wasted fertility of our soil. Fortunately we possess sufficient phosphate to supply, not merely our own farmers, but all Europe besides, for an indefinite period.

GRAPE-CULTURE AND WINE-MAKING IN EL PASO DEL NORTE.

The Department of Agriculture has received, through the Department of State, the following communication from William M. Pierson, esq., United States vice-consul at El Paso del Norte, Mexico, describing the primitive method of manufacturing wine in that consular district:

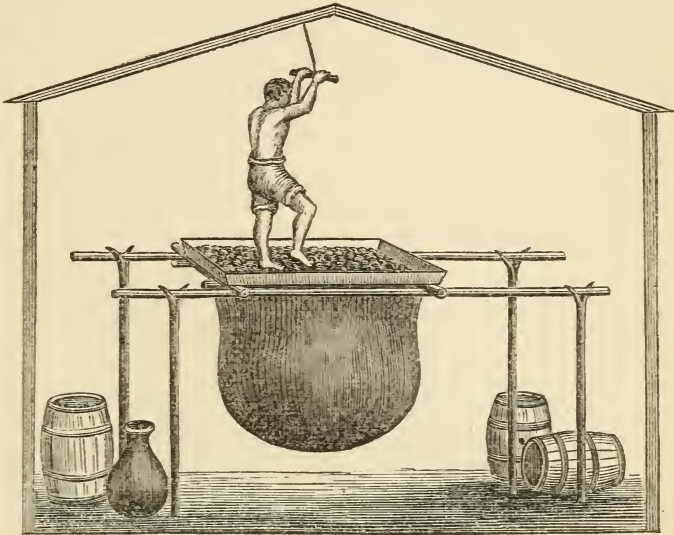
UNITED STATES CONSULATE, PASO DEL NORTE,
Mexico, November 30, 1872.

Referring to my dispatches of 15th and 26th instant, I have the honor to report that vineyards in this valley three years old produce a small quantity of grapes; the fourth year almost a half wine-crop is produced; the fifth year brings three-fourths of a crop, while the sixth year is the attainment of full development, and a full wine-crop is realized.

The common wine-yield of a healthy vineyard is two hundred and fifty gallons to the acre. The wine is manufactured in the most simple and primitive manner. It is the pure juice of the grape, receiving no doctoring or scientific manipulation. The manufacturer first provides himself with a sufficient quantity of raw-hide sacks, formed by fastening the outer edge of a large green hide to a square frame made of round poles, the hide hanging down in a sack form, or apparently much like the hang-down bird's nest of the North. The sack is then allowed to dry in the sun, when it acquires an iron-like solidity. Having acquired these sacks, a set of tramping-pans are also made from

green hide by drawing the piece of hide over a square box just the size to fit in the mouth of the main sack. The outer edge of the hide, after drawing it over the box, is lashed to a square frame made of round poles. It is dried in the sun, and also attains an iron-like hardness. This tramping-pan is about 8 inches deep, and, when dry, is taken off from the box upon which it is formed, and the bottom perforated with holes to allow the juice to escape, when tramped, into the main sack below.

Forked poles are now set in the ground-floor of the wine-house, and long poles placed in the forks, which are set at proper distances from each other. The main wine-sack is suspended upon these poles, and the tramping-pan placed in the mouth of the wine-sack. The tramping-pan is now filled with grapes, and a stalwart Mexican performs the office of wine-pressing by virtue of vigorous tramps from a pair of remarkably brawny feet. The accompanying drawing will illustrate the method of wine-pressing described above:



The wine, when fresh from the press, is poured into barrels, and remains ten days for hot fermentation, and is then drawn off. It now remains sixty days, when it is drawn off again in a cool state, and thirty days from the second drawing it is ready for use.

The compensation of this consulate is not sufficient to justify the employment of an artist. I have, therefore, executed the drawing representing the mode of wine-pressing in this valley myself, and, though inartistically done, nevertheless it will, in a manner, illustrate what I have written regarding what I know about wine-pressing (not farming) in this consular district.

I am, sir, your obedient servant,

WILLIAM M. PIERSON,
United States Vice-Consul.

SUGAR-MAKING IN THE FRENCH WEST INDIES.

A system of central factories has been adopted within a few years, in the French West India islands of Martinique and Guadalupe, for the manufacture of sugar. This system is a substitute for the long-practiced method of making the sugar by individuals upon the plantations where the cane is produced. The design is to separate agriculture from manufacture, and by a concentration of capital, somewhat upon the co-operative system, to accomplish what the isolated planter was unable to do. The experiment, made upon a large scale during a series of years, it is maintained, has fully demonstrated the soundness of the principle. The cen-

tral factories, or *usines*, as they are called, are owned by joint-stock companies, by which the sugar-cane is taken from the plantation and transported to the mill upon railroads, or tram-ways, constructed by those companies, a certain per cent. of the value of the cane being allowed the planter, the price being regulated by the market at Point-à-Pitre at the time the cane is delivered. The system seems to have proved a success, affording to the manufacturing interest a handsome profit, and, by leaving the planter free to devote himself to his peculiar vocation, largely increasing the cultivation of cane.

The government of the island of Jamaica recently appointed a commission to visit the French islands, and inquire into the working of this central sugar-factory system. The Department of Agriculture has received, through the Department of State, the report of these commissioners. Their examinations were made during the last summer, and the results, as stated by them, are not without interest and value to the sugar-producers of the United States.

The largest central factory in the French islands is that which is commonly called the "Usine d'Arboussier," at Point-à-Pitre, (Saint Louis,) the chief commercial station of the island. The factory is in the suburbs of this sea-port, and is constructed upon the grandest scale, having all the improvements in machinery and the manufacture of sugar devised by modern science. The cost of it was upward of a million of dollars, and its capacity of manufacture is equal to 10,000 tons of sugar during the first six months of the year, which is the manufacturing season. The process of manufacture, as described by the commissioners, is as follows:

The canes are brought by the planter to a siding of the main tram-way on his estate. The wagon generally carries two tons of canes, and one mule on a good level ordinary tram-way can draw easily two wagons. The wagon, when brought to the mill itself, conveys the canes to the rollers. The bagasse being elevated by power to a platform over the boilers, the juice, on leaving the mill-bed, falls through three strainers into a tank, which has a double bottom, heated by steam. It is treated here with a little bi-sulphite of lime, and is then run into a montejus. This montejus, by steam, sends the juice up to the clarifiers, where it is heated in the ordinary way and tempered with lime properly. From this it is passed to the charcoal-filters, through which it gravitates, and then passes by a gutter into a receiver. From this it is passed to a montejus and is thrown up by steam into a cistern over the triple-effet. From this cistern it gravitates into the triple-effet, passing from the first to the second, and from the second to the third boiler, as the attendant wishes. When it leaves the boiler it is immediately passed over new burned charcoal. It gravitates through this and falls into another receiver from which the vacuum-pan takes it up and boils it to sugar. The first-quality sugar is generally crystalized in the pan, and is then dropped into sugar-boxes which stand seven feet from the ground; under these boxes a little charging-vessel runs on a railway that is hung from the bottom of the said boxes, and this vessel conveys the sugar over the centrifugals, where it is cured; the molasses from this being boiled up, when found in good condition, with the sirup of the following day. When this molasses is thick and clammy it is boiled into a jelly by itself and dropped into sugar-boxes, where it is allowed to granulate for a number of days. This makes the second-quality sugar, and the molasses from this, along with the skimmings and subsidings of clarifiers, goes to make rum. The juice that leaves the clarifiers does not pass over fresh charcoal, but follows the sirup from the triple-effet, thus assisting to wash out the sweets which may have been left by the sirup.

The weight of canes delivered at the factory last year was 75,000 tons, although it was a season of drought. The factory can receive 100,000 tons a year. Last year 5,325 tons of sugar were obtained from 68,745 tons of cane, or about $7\frac{1}{2}$ per cent. In April last the factory company declared a first dividend of 24 per cent. In other words, a net profit of \$131,585 was made upon the manufacture of 68,745 tons of sugar, and 182,798 gallons of rum.

The processes of manufacture in all the factories, both in Guadalupe and Martinique, are identical, the only difference being the adoption in the new factories of the appliances of modern science, and improved mechanical and other arrangements. The clarification of the juice, its reduction to sirup at a low temperature, the perfect crystallization and color of the sugar, and a maximum return, are obtained by repeated filtration through animal charcoal, the "triple-effet" and vacuum-pan processes, and, last

of all, centrifugal machines. In Martinique the mean weight of canes was found to be equal to 28 tons per acre, producing, say, $2\frac{1}{2}$ tons of sugar, and the sugar sells at \$200 a ton.

The central factories, or usines, are represented as in the highest popular favor. Capital, both local and in France, is freely subscribed to establish new usines upon a large and extensive scale. Eight of the factories, at considerable cost, have been erected within the last two years, and others are now in process of erection. They seem everywhere, by increasing the facilities of manufacture, to have stimulated the planters to increased production of the cane. In speaking of the difference between the tillage of those who sell their canes to the usines and those who manufacture at home, it is remarked that in the one case the canes are no sooner out of the fields than the gangs and stock are at work preparing the land for the next crop, and all the fields are tidy and clean. In the other case fields are left to take care of themselves until the crop season is over. Estates which, before the establishment of the usines, were in debt, are now said to be in a flourishing condition, and others which had almost fallen out of cultivation are now making excellent crops.

In most of the factories hydraulic or other presses are employed for extracting the remnants of juice from the skimmings. The former are carefully returned to the clarifiers, the residuum being a hard cake, which is used for fodder and manure.

SYSTEMATIC CROP REPORTS.

One of our regular correspondents, (Mr. R. V. Montague,) representing the county of Ralls, in Missouri, writes with some warmth relative to our system of crop reports as follows :

For the past few months I have noticed, in some of the leading journals of the day, rather severe strictures passed upon the management of the Agricultural Department. I think all such imputations to be unjust. Under existing circumstances, I think the plan devised by the Department to obtain information, relative to the crops throughout this vast scope of country, is as near perfect as can be devised. Your correspondents have no incentives to make false reports; and both honesty and pride will prompt them to be correct. I infer that you select your correspondents, as a general thing, from the farming community. It is unjust, as well as absurd, for editors of newspapers to assert that a farmer is not capable of making a just estimate of the crops in his locality. If they are incapable of doing so, the Government ought to abolish the Agricultural Department and use the funds to establish an insane asylum for them. However, concede them capable, are they honest; and will they make honest and prompt returns of the condition of the crops? I assert, without fear of successful contradiction, that they are as honest and prompt as any other class of men. Then, if they are capable and honest, why not intrust to them the execution of the regular monthly returns of the Department?

I notice that many members of the press stigmatize your correspondents as the "favored few." Favored! I would like to know in what respect? Do they call the courtesy of sending them a few packages of seed or printed reports "favors?" Are such favors commensurate with the efforts which a farmer makes to send in a correct statement of the condition of the crops twelve times during the year? Will the press engage to furnish agents who will do it any cheaper and as accurately? I know whereof I speak. I am one of the correspondents of the Department, and, without desiring to make a pompous display of what we do, permit me to mention that we do not rely solely upon our own judgment, nor upon the opinions of assistants, in making up our reports. Every month I seek the advice and counsel of men whom I know to be excellent farmers. I do so almost to the prejudice of my own farm affairs. *A fortiori*, if I am thus particular, is it not reasonable to presume that others in similar positions will be equally accurate and energetic? Pray tell me, if we who live, move, and have our very being in the midst of our crops are not to be relied upon, then who are? As an illustrative example, Mr. Geddes, of New York, has been indicated by some members of the press. Very well, Mr. G. is a man erudite in all things pertaining to a farm, but he is a farmer, after all. Is it possible to employ twenty such men in every State to act as reporters to the Department? Is it necessary to employ such men? True, the Department would be more than rejoiced to secure the services of such undoubted ability.* Yet this does not argue against the competency of other men to fill the position.

* He is a fair representative of the class of men sought as crop reporters—men high in the rural organizations of their respective States, and in the confidence of their fellow farmers, as men of accurate judgment and large agricultural experience.—(Ed. Rep.)

If the press would strive to assist the Department, rather than subvert its efforts, it would redound to the benefit of both farmers and the country. If it wishes to extend its advice to the Department, it should assume a less dictatorial attitude.

The following extract from a letter of Mr. E. Longuemare, secretary of the Perry County, Indiana, Agricultural association, but not a statistical correspondent, gives an illustration of the money value of reliable information:

We have observed the expressions of dissatisfaction, made from a certain quarter, regarding the system of crop reports as adopted by the Department. We desire to offer our protest against the attack made on the system as carried out by the United States Department of Agriculture. We know from experience its worth and its correctness. We do not aver that the system has reached a state of perfect completeness, but we do maintain that it is not only of incalculable advantage to the agricultural districts, but we hold it to be a necessity. I could give you many proofs of this did I think it necessary to the Department. I will only mention the material advantage it proved to us this year in one particular only. About the time of the potato harvest this fall our producers were all astray respecting the market value of the potato crop, (one of our main crops in this section.) This uncertainty was taken advantage of by buyers, and they swarmed down on our producers early in the day, offering 50 cents per bushel. Some producers accepted the offer, but the vast proportion of our farmers concluded, at the request of the association, to await the report from the Agricultural Department. It reached us in proper time, and a careful analysis was made of its reports of the potato crop. Our people acted upon it, and the result was a gain of many thousands to our people. The speculator found fault with the Department, but the farmer was more than ever convinced that in one respect at least the people were well served. So far as we can understand the system as proposed by Maury, we do not believe it to be of any practical benefit to agriculture; at all events we are averse to a change; we hope and believe the system of the Department will grow to a greater degree of perfection, though it can hardly be more correct.

AGRICULTURAL IMPORTS.

The principal agricultural imports of the last fiscal year, from June 30, 1871, to June 30, 1872, as compiled in the Bureau of Statistics, are as follows:

Articles.	Quantities.		Value.	
	1872.	1871.	1872.	1871.
Living animals of all kinds			\$3, 465, 554	\$5, 845, 926
Breadstuffs and other farinaceous food:				
Barley.....bushels..	5, 565, 591	4, 866, 700	3, 403, 607	3, 678, 810
Barley-malt.....do.....	233, 941		186, 351	
Bread and biscuit.....pounds..	955, 083	1, 265, 371	111, 545	142, 313
Indian corn.....bushels..	58, 568	111, 080	74, 434	105, 678
Oats.....do.....	525, 250	599, 514	194, 198	246, 155
Rice.....pounds..	74, 642, 631	64, 655, 827	2, 317, 172	1, 876, 786
Rye.....bushels..	249, 146	116, 073	179, 910	84, 418
Wheat.....do.....	1, 546, 623	717, 179	2, 188, 689	933, 253
Wheat flour.....barrels..	172, 823	30, 062	1, 028, 142	163, 630
Meal or flour made from oats, Indian corn, rye, and buckwheat.....			205, 604	277
Peas, beans, and other seeds of leguminous plants.....bushels..	365, 977		325, 743	
Cotton and manufactures of:				
Bleached and unbleached.....square yards..	41, 700, 373	36, 938, 026	5, 316, 877	4, 883, 622
Printed, painted, or colored.....do.....	36, 578, 465	28, 975, 876	4, 975, 624	3, 634, 315
Hosiery, shirts and drawers.....			5, 451, 523	5, 085, 993
Jeans, denims, drillings, &c.....square yards..	6, 483, 461	5, 386, 146	878, 580	737, 251
Other manufactures of.....			18, 684, 843	15, 535, 459
Flax and manufactures of:				
Raw flax.....tons..	5, 274	3, 672	1, 399, 747	694, 832
Manufactures of, by yards.....			16, 615, 066	13, 560, 702
Other manufactures of.....			4, 605, 430	4, 500, 393
Fruits of all kinds, including nuts			10, 383, 466	9, 602, 630

Articles.	Quantities.		Value.	
	1872.	1871.	1872.	1871.
Hemp, and manufactures of:				
Raw.....tons.....	27, 613	20, 805	\$4, 580, 049	\$3, 918, 129
Manufactures of, by yard.....square yards.....	526, 793	931, 658	90, 850	135, 823
Other manufactures of, not elsewhere specified.....			366, 891	287, 596
Hides and skins, other than furs.....			12, 973, 904	14, 892, 987
Jute and other fibers except hemp:				
Raw.....tons.....	41, 351	26, 450	2, 666, 479	2, 131, 056
Manufactures of, by yard.....square yards.....	155, 357	228, 873	24, 260	29, 556
Gunny-cloth, and manufactures of, used for bagging.....pounds.....	12, 137, 603	30, 124, 466	505, 566	1, 468, 902
Other manufactures of.....pounds.....			1, 292, 515	1, 734, 474
Oils:				
Coal and other mineral oils.....gallons.....	2, 967, 327		505, 591	
Whale and fish, not of American fisheries.....gallons.....	290, 222	354, 188	151, 567	201, 254
All other animal.....do.....	615		456	
Olive, salad.....do.....	196, 364	142, 243	349, 535	252, 667
Olive, not salad.....do.....	108, 650	147, 075	87, 795	123, 321
All other vegetable, fixed.....do.....	390, 482	4, 933, 516	212, 365	1, 247, 661
Volatile or essential.....pounds.....	379, 417	322, 789	673, 889	527, 498
Opium and extract of.....do.....	416, 864	315, 121	2, 107, 341	1, 926, 915
Paper:				
Paper-stock.....pounds.....	192		16	
Printing-paper.....do.....	4, 343, 820	2, 632, 324	350, 246	218, 833
Writing-paper.....do.....			222, 029	27, 784
Potatoes.....bushels.....	96, 259	458, 758	95, 308	234, 303
Provisions:				
Meat, poultry, lard, butter, cheese, &c.....pounds.....	617, 804, 664	637, 752, 646	3, 386, 979	3, 650, 487
Salt.....pounds.....			1, 214, 747	1, 254, 001
Spices, (except vanilla beans):				
Ginger, pepper, and mustard.....pounds.....	22, 186, 673	23, 393, 398	2, 722, 610	2, 165, 557
Sugar and molasses:				
Brown sugar.....pounds.....	1, 457, 294, 818	1, 189, 155, 938	79, 129, 059	61, 249, 621
Refined sugar.....do.....	217, 481	1, 204, 180	17, 915	74, 741
Molasses.....gallons.....	45, 214, 403	44, 401, 359	10, 627, 511	10, 192, 384
Melada and sirup of sugar-cane.....pounds.....	51, 673, 375	87, 113, 535	2, 066, 027	3, 296, 877
Candy and confectionery.....do.....	63, 833	50, 546	18, 758	13, 225
Tobacco:				
Leaf.....pounds.....	9, 562, 395	8, 394, 980	4, 326, 142	3, 433, 669
Cigars.....do.....	880, 649	729, 962	2, 838, 444	2, 550, 670
Other manufactures of.....			165, 336	62, 946
Wood, and manufactures of:				
Cabinet-ware furniture.....			1, 510, 994	1, 149, 389
Boards, deals, planks, joists, and scantling.....M feet.....	714, 811	725, 994	7, 132, 061	6, 863, 684
Shingles.....M.....	102, 904		203, 503	225, 232
Other lumber.....			270, 085	404, 059
Timber, sawed or hewn, wholly or in part.....			155, 022	226, 570
Rough timber and unmanufactured wood.....			168, 539	193, 495
Firewood.....			201, 055	216, 613
Wool, sheep's, and hair of alpaca, goat, &c.:				
Unmanufactured.....pounds.....	122, 256, 499	68, 058, 028	26, 214, 195	9, 780, 443
Skins of sheep and Angora goats, unmanufactured, with wool or hair on.....			991, 878	
Cloths and cassimeres.....			14, 159, 774	10, 902, 761
Woolen rags, shoddy, mungo, waste, and flocks.....pounds.....	2, 719, 246	1, 277, 495	232, 211	87, 667
Shawls.....			3, 424, 349	2, 160, 037
Blankets.....			38, 785	28, 050
Carpets.....square yards.....	5, 072, 247	4, 775, 705	5, 727, 183	4, 691, 061
Dress-goods.....do.....	72, 079, 900	75, 361, 713	20, 439, 481	18, 586, 874
Hosiery, shirts, and drawers.....do.....			658, 193	538, 770
Other manufactures.....			7, 728, 495	6, 844, 420

ENTOMOLOGICAL RECORD.

By TOWNEND GLOVER, ENTOMOLOGIST.

THE APPLE-TWIG BORER.—Numbers of letters have been received by the Department from the Western and Southwestern States during the past season complaining of the injury done to fruit-trees by a small insect, which bores into the wood and frequently destroys the branch

or twig attacked. For some time the injured branches only were sent, but at last Mr. William Duane Wilson, of the Iowa Homestead, forwarded some branches of the grape-vine, with the insects in them, and on examination they proved to be the apple-twig borer, *Amphicerus (Bostri-chus) bicaudatus*, of Leconte. These insects measure from .25 to .35 of an inch in length, and are small, dark chestnut-colored beetles, of a cylindrical form, having the front part of the thorax roughened with elevated points, the male having two little horns, and the tips of the wing-covers above, provided with two prickle-like points curving inward. In his letter Mr. Wilson complains much of the injury done by these insects in Iowa, and says that seven to nine year old vines are killed from the root up, and that out of fourteen vines, eleven were killed. Mr. Allen Crocker, of Burlington, Kansas, some time ago stated that in Kansas this insect did much damage by boring into the twigs of the white hickory. Other correspondents say that it also attacks apple, pear, and cherry trees in a similar manner, by boring into the twigs and young branches. It is in the perfect or beetle state that the insect does the injury to our fruit and forest trees, boring into the twig just above a bud, working downward sometimes to the depth of two or more inches through the pith, thus finding in the branch both food and protection. Even in midwinter both male and female beetles may sometimes be found hiding in their cylindrical burrows, and always with the head directed downward. The insects are plentiful in the Western States, and, although they have been taken in Maryland and Pennsylvania, we have received no accounts of their ravages from eastern correspondents. The only remedy that can be suggested, when the insect attacks twigs and branches, is to cut them off some distance below the place injured and to burn them immediately, with the beetles inside, as it is not likely that any preparation could be applied to the trees that would prevent their attacks.

THE ARMY OR SNAKE-WORM AGAIN.—In regard to this singular worm, a description of which was given in the monthly report for October, 1872, Mr. M. H. Spera writes from Ephratah, Pennsylvania, as follows: "During the past summer I found several of these 'snakes,' one of them, when found, measuring eighteen inches in length, and numbering 497 worms, some being .30 of an inch in length. It was moving rapidly. Several days after I found another, not as large as the former, containing 364 worms. Of these I secured a number, placing them in a glass box, in which I also placed damp earth and moss. When I placed them in the box, about 3 p. m., they would crawl on the glass, but by next morning they had all disappeared beneath the earth and moss. The perfect flies appeared on the afternoon of the fifth day, and on the sixth and seventh, their description perfectly agreeing with that given in the monthly report. The first was found on the 27th of July, the second several days after."

THE ROSE-BUG.—Mr. Charles B. Thompson, of Elwood, New Jersey, writes to the Department that after having made many inquiries as to the means of extirpating the rose-bug, and tried many reputed remedies without success, he at length accomplished his object by the use of dry, unleached oak-ashes. He scattered the ashes upon the vines and the branches of peach and apple trees that were infested by the bug early in the morning, while the dew was on the leaves. The result was that within four days after this application the bugs had almost entirely disappeared.

Mr. George Hardy, of Avola, Vernon County, Missouri, has made a similar experiment with the same favorable result. He writes to the

Department that to prevent the bugs from injuring his vines he scattered oak-ashes (unleached) on them, while the dew was on, and with such success that a second application was unnecessary.

INSECTS INJURIOUS TO PLUMS.—Mr. William R. Marine, of Green-castle, Missouri, writes to the Department that he has discovered a remedy for the ravages of insects or bugs upon plum-trees. He says : "I have been successful in the use of road-dust and sulphur. To one bushel of road-dust I add five pounds of sulphur, and commence the use of this mixture about the time the petals fall off, dashing in handfuls among the young plums, morning and evening, two or three times a week, for the space of six weeks, or until the plums have attained to a sufficient growth for resistance to the operations of the bug."

CHEMICAL MEMORANDA.

BY WILLIAM MCMURTRIE, ACTING CHEMIST.

MINERAL FERTILIZER.—During the month of December last a package of mineral fertilizer was sent to this Department for analysis, by Mr. James K. Gibson, of Abingdon, Virginia, who states that he used it during the past season upon his corn-crop, and until the beginning of the dry weather it produced a very fine effect. The substance submitted to analysis in the laboratory of the Department shows the following composition :

Moisture, (at 100° C.).....	0.100
Silica.....	34.655
Peroxides of iron and alumina.....	14.542
Phosphoric acid.....	0.563
Lime.....	22.207
Magnesia.....	9.614
Carbonic acid.....	17.448
Alkalies.....	Traces.
Loss.....	0.871
	<hr/> 100.000 <hr/>

Owing to the absence of notable quantities of phosphoric acid and potash, its value is evidently due to the amount of lime and magnesia which it contains.

THE MESQUITE.—It seems that the mesquite-tree of the Southwestern States, in addition to the many other uses to which it has been applied, such as that of a food and gum producing material, has another valuable property which may bring it into greater popularity and more frequent use in the arts. It has for some time been considered by the inhabitants of Western Texas a valuable tanning material. Dr. J. Park, of Seguin, Texas, made some investigations with regard to its value in this respect, and found that the whole body of the tree was rich in tannin, and considered the leather produced with it of better quality than that tanned with oak-bark. It is stated that it is very abundant throughout Texas, Arizona, and Mexico, and may be cheaply reduced to a form convenient for tanning purposes. With a view to a determination of its value in this respect some shavings of this kind of wood were sent to this Department for analysis by Mr. Daniel Ruggles, of Fredericksburgh, Virginia. The following results were obtained :

Tannin	13 per cent.
Woody fiber, &c.....	87 per cent.
	<hr/>
	100 per cent.
	<hr/>

It will be seen that this, when compared with other tanning materials, is certainly a very valuable product. According to E. Wolff different oak-barks, of trees from five to fifty years old, yield from 10.86 to 15.83 per cent. of tannin, the lower results having been obtained from an examination of the crude bark of old trees, while the higher results were obtained from examination of the inner bark of young trees. Büchner, in his researches in 1867, determined that the best kinds of oak-bark contained but 6 to 7 per cent. of tannic acid. The bark of the hemlock, (*Abies canadensis*,) so much used throughout the United States, contains, according to J. Feser, from 5 to 15 per cent. of tannin, while Dr. Wagner finds but 7.3 per cent. It will be seen that the amount of tannin contained in the mesquite-wood is higher than that of many other tanning materials, and thus when compared with them this product is as valuable as any other material used in this branch of industry.

USE OF SULPHUROUS ACID IN MANUFACTURE OF ALCOHOL.—The increased yield of alcohol, obtainable from different kinds of grain, by the use of sulphurous acid, has led to its very general use in many parts of Europe. From the investigations of Hemilian and Melnikoff it would seem that the weak solution of sulphurous acid used dissolves the gluten and other albuminoid substances, thus allowing the starch to come into more perfect contact with the solution of diastase. It has, therefore, two different actions, the one being the partial destruction of the fermenting power of the diastase, while the other promotes the inversion of the starch. It was determined that the largest quantity of glucose is obtained when the cold maceration is continued five or six hours with a solution containing an amount of sulphurous acid equal to 0.1 to 0.13 per cent., the quantity of malt and meal used. If, however, the maceration be continued for eighteen hours, with cold water alone, the effect is the same as when the sulphurous acid is used, except that we have acidification and incipient putrefaction. The use of sulphurous acid in the most favorable conditions is found to increase the yield of glucose from 2 to 3 per cent. of the weight of the grain employed. The method of using it, as suggested by Hemilian and Melnikoff, is as follows: The meal only, without the malt, is macerated in the cold with the solution of sulphurous acid, of the strength above mentioned, and then heated to 50° C., so as to volatilize any free sulphurous acid. The malt is then added, and the mixture, being all the time well stirred, is heated from 70° to 75°, these temperatures being best suited to the saccharification. The principal utility of sulphurous acid is due to its power to prevent the formation of free acids, which are always generated at the expense of the alcohol, while the decrease of free acids in the spent wash renders it more valuable as food for cattle, since its nutritive value is thus increased and it is less injurious to health.

SULPHUROUS OXIDE ON VEGETATION.—It has been observed that trees in the neighborhood of smelting-works are injured by the fumes of sulphurous oxide proceeding from them, and that the *Conifera* suffer greater injury than ordinary foliaged trees. The fumes are absorbed through leaves entirely, not by the stomata alone, but by the whole surface of the leaves. It could have no influence upon the plants through the soil, since the sulphurous oxide would be oxidized and sul-

phuric acid be formed, which, in the small quantity in which it would exist, could have no injurious influence, but rather beneficial. The amount of injury is also influenced by the condition and temperature of the atmosphere. If the air be dry and cold, the injury is much less than when a warm, moist condition prevails, accompanied with strong light, such as exists in the summer seasons.

INDIGO-CARMINE IN SUGAR MANUFACTURE.—Indigo-carminé easily dissolves in water, furnishing a clear blue solution. For the preparation of this solution in practice, one pound of indigo-carminé is dissolved in ten pounds of water, the water being added little by little, with constant stirring, in order to dissolve it uniformly and produce the clear blue liquid required. This solution is poured into the material to be cleared, until the whole acquires a light-blue color. Determined proportions cannot be given, since some manufacturers make their sugar more blue than others, and this also depends partly upon the quality of the material. Besides, it is quite easy to determine the correct proportions by a little practice. The use of this solution is much preferable to ultramarine, since the sugar treated with it shows an extremely brilliant luster, and appears dazzling white.

LIQUID GLUE.—C. Puscher, in *Polytechnisches Notizblatt*, states that a mixture of one part grape-sugar in three parts water, when spread upon paper, shows little adhesive power or brilliancy, and when dried, and subsequently moistened, will not stick to the fingers. But if to the sugar solution be added an amount of slaked lime equal to one-fourth that of the sugar present, and the whole be heated to 60° to 75° C., (140° to 170° F.) and allowed to stand for several days with occasional shaking, the greater part of the lime will be dissolved, and the mixture will act like gum, having all its glistening and adhesive properties. If to the sugar solution thus prepared three parts of glue be added in small pieces, it quickly dissolves on being warmed, and the whole remains fluid on cooling without losing its adhesive properties.

LAURUS A FEBRIFUGE.—The great success which has attended the use of the leaves of *Laurus nobilis* in cases of intermittent fevers, on account of their febrifugic and antiperiodic properties, will probably bring them into general use in medical practice. The leaves are dried at a low temperature (in a closed vessel, to avoid loss of volatile matters) until they become brittle. They are then reduced to a fine powder and 15 to 16 grains of this powder is then macerated from ten to twelve hours in a glass of cold water, and about two hours before the attack is expected the liquid and the powder are administered. No abnormal effect is produced, and the attack does not appear after the administration of the first mass. No particular treatment or diet is necessary during the good days. This medicine is thus administered during the three following days. This treatment has proved effectual in cases of quotidian and tertian fevers, which have rebelled against the action of sulphate of quinine, and it is probable that if administered in the same manner in cases of quartan fevers it would produce the same effect. Of 34 cases reported in which it was used, only six failed, and these were all related to quartan fevers.

EUCALYPTUS GLOBULUS.—From the results of certain investigations upon the leaves and bark of *Eucalyptus globulus* used in cases of intermittent fevers, M. Rabuteau maintains that the leaves do not contain an alkaloid similar to quinine, as has been stated, and that the substance successfully used by the physicians of Corse is an undetermined saline residue obtained by treating an alcoholic extract of the bark with sulphuric acid.

BOTANICAL NOTES.

BY DR. GEORGE VASEY, BOTANIST.

BRANCHING PALMS.—In the Agricultural Gazette of India for September, 1872, we notice an interesting account of some singular deviations from the general law of growth which governs the development of *endogenous* trees. Trees of the temperate zone are almost entirely of the *exogenous* structure, *i. e.*, they ramify during many years, and increase in diameter by the annual addition of a layer of woody matter external to the preceding ones. In palms, however, the growth is different; the stem shoots up in one unbroken column, sometimes to an immense height, and at the top develops a mass of leaves and sends up its flower-spikes, upon which is produced the fruit.

Such trees rarely or never produce branches, but the article quoted below gives interesting details of some of the rare exceptional cases. The notes were communicated to the Agricultural and Horticultural Society of India:

I have much pleasure in communicating to the society the following notes by Dr. Beaumont, descriptive of a unique example of fasciation and branching in a date-palm, (*Phoenix sylvestris*), with a very instructive sketch of the same by Mr. Daly, in whose garden the palm grows. This is a remarkably good sketch of a common date-palm in the residency garden, Indore. The trunk is 22 feet high to the lowest branch and 3 feet 6 inches in girth at 4 feet from the ground. The branches are twenty-two in number; eighteen of them rise vertically, and are so closely packed that it was not possible to give a clearer idea of them in the picture. I have examined the tree and determined that it is really branched, and that the branched appearance is not owing to seeds having germinated in the axils of the leaf-stalks.

I take this opportunity also of noting a few cases of palms which have produced branches near Calcutta, and for the knowledge of which I am chiefly indebted to the native overseer of this garden, Babu P. G. Sein.

1. *Phoenix sylvestris*.—A large specimen of this palm, near Oolecobariah, had a tall erect stem, branching irregularly at a considerable height into seven distinct and well-developed heads. This specimen was uprooted and destroyed by the cyclone of 1864. A second specimen of this palm at Sookhichur, near Barrackpore, of a smaller size, had also six lateral branches overtopped with the main crown. This specimen seems also to have been uprooted by the cyclone. I have accounts of other less numerous branched specimens, but I can hear of none of this palm now existing in the vicinity of Calcutta.

2. *Cocos nucifera*, (the cocoa-nut tree).—A most interesting example of branching in this palm was illustrated by a large specimen in the garden of Babu Luckinarrain Dutt. This tree was about 25 feet in height, and had five well-developed fruit-bearing heads. It was held in great veneration by the Hindoos, and annually in June, about the time of the Moonsha Poojah, flowers, fruit, rice, &c., were scattered around its roots by the many Hindoos who visited it. The late Dr. Falconer tried in vain to purchase the specimen, and I hear that he sent a native from this garden to measure it carefully, but he does not appear to have anywhere recorded these. As in the case of the date-palms, this specimen was also broken and uprooted by the cyclone of 1864. I have just heard that a two-headed cocoa-nut palm may be seen in the garden of Ghosal Babu, at a short distance from the Conaghur Station, on the East India Railway.

POTENTILLA FRUTICOSA, AGAIN.—We gave in last month's report a letter from Mr. T. S. Gold, objecting to the cultivation of the shrubby cinquefoil, in apprehension of its becoming a nuisance by spreading, through the dispersion of the seeds. We had been acquainted with the shrub for many years, and had never known of its disposition to spread unduly, and it has been in cultivation in the grounds of the Department here for many years without showing any such tendency. Mr. H. C. Beardslee, of Painesville, Ohio, has written to the Department concerning this shrub, and says:

I have collected botanical specimens of the plant in Connecticut, Massachusetts, Rhode Island, New Hampshire, New York, Pennsylvania, Michigan, and Canada, and more recently in Northern Ohio. I have met with it often in the more northern regions, and never in any locality sufficiently abundant to prove troublesome. Nor have I

anywhere heard it called "hardhack." That name, I suppose, belongs everywhere to *Spiraea tomentosa*, L. This last abounds in the wet and stony pastures of New England, especially of Northern New England. But, where most abundant, it, the hardhack, is far from being a nuisance. The leaves and young shoots are rich in tannin, and once in three years the plant is mowed, cured, and sold to the tanners, at prices which afford a fair profit for the use of the land. An intelligent and successful farmer in Middle New Hampshire informed me that the discovery that hardhack could be so utilized had increased the value of their low and wet lands. Both the *Potentilla fruticosa* and the hardhack (*Spiraea tomentosa*) are pretty shrubs.

FACTS FROM VARIOUS SOURCES.

RAILROAD FREIGHTS.—The burden of railroad freights is a heavy tax upon agriculture which is sorely felt at present from two causes; the increase in production, which reduces prices, and the advance of freight-rates by railroads, which tends to depress prices still further. The evil is becoming unendurable, and should be remedied by the speediest and wisest method practicable. Hon. Samuel Shellabarger, of Ohio, has introduced into the House of Representatives the following bill to secure uniformity in rates of local and through freight:

Be it resolved, &c., That the compensation authorized and contemplated by the second section of the act of the fifteenth of June, anno Domini eighteen hundred and sixty-six, entitled "An act to facilitate commercial, postal, and military communication among the several States," for the several descriptions of service named in said section, shall be charged at uniform rates per mile for the transportation of the same amount and description of freight, and the same description of passengers; and way-passengers and freight shall not be subjected to higher rates of charge per mile than the lowest rates charged by the same line, for the same services, over any other part of the said line; and any person or persons who shall be subjected to, or demanded to pay, any excessive charge in violation of the provisions of this act, may recover, from the party making the charge, such excess so either demanded or paid, together with costs and reasonable counsel fees, in any court of competent jurisdiction: *Provided*, That the provisions of this act shall not prohibit any common carrier, coming within its provisions, from receiving just compensation for the necessary expenses of lading and unlading way-freights: *And provided, moreover*, That the provisions of this act shall apply to all common carriers in carrying passengers or freight on their way from one State to or through another State.

IMPORTS AND CONSUMPTION OF COFFEE IN THE UNITED STATES.—In 1872 there were imported (into all except the Pacific States) 277,636,258 pounds of coffee; exported, 5,856,700 pounds; retained in the country, 271,779,558 pounds. In 1871 there were imported 322,700,479 pounds; exported, 5,768,695 pounds; retained in the country, 316,931,784 pounds; showing a decrease in 1872 of 45,152,226 pounds. By adding the stock on hand January 1, 1872, and deducting the stock on hand January 1, 1873, the actual decrease in consumption in 1872 is shown to be 44,891,027 pounds. In 1872, New York imported 165,252,428 pounds—just about three-fifths of the total; the sources of the coffee supply of the country will therefore be pretty fairly indicated by the shipments to New York. These were: from Brazil, 83,304,960 pounds; Maracaibo, 20,947,510 pounds; Java and Sumatra, 17,923,979 pounds; Laguayra and Porto Cabello, 9,464,905 pounds, and San Domingo, 7,812,502 pounds. The remainder was from Costa Rico and New Granada, Bolivar City, Jamaica, Porto Rico, Curaçoa, Cuba, Manila, Singapore, Ceylon, Bombay, Africa, and Mexico. A considerable amount of coffee is reshipped to the United States from European ports, which is produced in Brazil, and it is estimated that from 70 to 80 per cent. of our supply is drawn from that country. The estimated consumption of the Pacific States for 1872 is 12,000,000 pounds, making total for the country 282,718,738 pounds.

The value in gold of imports of coffee at ports of shipment, (exclusive of the Pacific States,) as shown by custom-house returns, was, in 1872, \$25,284,179; in 1871, \$16,041,387. It will be noticed that though the amount of coffee imported in 1872 was much less than in 1871, it cost much more. These results are mainly attributable to the very short crop in Brazil, and a partial failure of the crop in Java in 1871.

The average wholesale price in gold at New York was, in 1872 and 1871, respectively, for Brazil, \$18.42 and \$15.91 per 100 pounds; for San Domingo, \$15.37 and \$13.55; for Maracaibo and Laguayra, \$18.18 and \$16.22; for Java, \$21.30 and \$21.29.

The following statement shows the receipts and consumption of the country, exclusive of the Pacific States, for the past 22 years:

Year.	Receipts.	Consumption.	Year.	Receipts.	Consumption.
	Pounds.	Pounds.		Pounds.	Pounds.
1872.....	277,636,258	271,718,738	1861.....	182,244,627	187,045,786
1871.....	322,700,479	316,609,765	1860.....	185,779,689	177,111,923
1870.....	222,540,737	220,911,672	1859.....	248,527,306	222,610,300
1869.....	242,609,252	243,441,117	1858.....	227,656,186	251,255,099
1868.....	238,012,079	223,200,937	1857.....	217,871,839	172,565,934
1867.....	226,322,811	204,506,671	1856.....	230,913,150	218,225,490
1866.....	165,392,983	159,918,881	1855.....	278,214,533	218,378,257
1865.....	133,574,397	123,146,356	1854.....	182,473,853	179,421,023
1864.....	145,304,957	109,086,703	1853.....	193,112,399	175,687,790
1863.....	75,260,417	79,719,641	1852.....	205,542,855	224,991,595
1862.....	98,552,680	88,989,911	1851.....	216,043,870	184,225,700

PRODUCTION OF ANTHRACITE COAL IN PENNSYLVANIA.—The increase in the amount of anthracite coal annually mined in Pennsylvania has been very steady from the beginning, in 1820, when 365 tons were produced. The following table shows the amount mined in each successive year:

Year.	Tons.	Year.	Tons.	Year.	Tons.	Year.	Tons.
1821.....	1,073	1834.....	376,636	1847.....	2,882,309	1860.....	8,513,123
1822.....	3,720	1835.....	560,758	1848.....	3,089,233	1861.....	7,934,264
1823.....	6,951	1836.....	684,117	1849.....	3,242,966	1862.....	7,869,407
1824.....	11,108	1837.....	869,441	1850.....	3,358,899	1863.....	9,566,006
1825.....	34,893	1838.....	738,697	1851.....	4,448,916	1864.....	10,177,475
1826.....	48,047	1839.....	818,402	1852.....	4,993,471	1865.....	9,652,391
1827.....	63,434	1840.....	864,379	1853.....	5,195,151	1866.....	12,703,882
1828.....	77,516	1841.....	959,773	1854.....	6,002,334	1867.....	12,988,725
1829.....	112,053	1842.....	1,108,412	1855.....	6,608,567	1868.....	13,834,132
1830.....	174,734	1843.....	1,263,598	1856.....	6,927,580	1869.....	13,723,030
1831.....	176,820	1844.....	1,630,850	1857.....	6,644,941	1870.....	15,849,899
1832.....	363,271	1845.....	2,013,013	1858.....	6,839,369	1871.....	15,113,407
1833.....	487,749	1846.....	2,344,005	1859.....	7,803,255	1872.....	18,400,000

The production (estimated) of 1872 was 3,286,593 tons over that of 1871. This large increase is accounted for in part by the fact that in 1872, for the first time in several years, the work of mining anthracite coal in Pennsylvania was prosecuted without the interruption of strikes through the whole year. It is found that the increase in consumption has equalled that of production, and, from data deemed reliable, it is estimated that the increase of consumption in 1873 over that of 1872 will be nearly, if not quite, as great as the latter was over that of 1871. Of this coal, 7,513,115 tons were transported from the mines by the Reading Railroad Company, which now owns or controls 1,355 miles of single track. Its receipts for transportation, based on the tonnage of the main line, were, in 1871, \$1.808 per ton; in 1872, \$1.544, the average receipts per ton for the previous ten years being \$1.94.

COST OF GROWING OATS AND CORN IN ILLINOIS.—Mr. H. B. Gurler, of De Kalb County, reports to this Department the cost, per acre and

per bushel, of growing oats and corn on his farm, as ascertained by keeping a careful account of each item of expense. Interest on the value of the land, estimated at \$40 per acre, is charged, as is each day's work by man, boy, or beast, but there is no charge for seed and no credit given for straw or corn fodder. In seeding, cultivating, and harvesting, improved farming tools and machinery were used. A field of oats, containing 15 acres, yielded 800 bushels, or $53\frac{1}{3}$ bushels per acre; the cost of raising was \$9.45 per acre, or $17\frac{7}{10}$ cents per bushel. The oats when thrashed were worth in market 16 cents per bushel. One field of corn, containing 33 acres, yielded $45\frac{5}{11}$ bushels per acre; the cost of raising was \$10.16 per acre, or $22\frac{1}{3}$ cents per bushel. Another field of 13 acres yielded 50 bushels per acre, and the cost of raising was \$12.27 per acre, or $24\frac{1}{3}$ cents per bushel. Because it costs Mr. Gurier more to raise oats than they will bring in market, he does not consider that he is thereby doing either an unprofitable or an unwise business. His farm is stocked with cows, hogs, and long-wool sheep, and his rule is to feed out to them all the corn, oats, and hay it produces; on which account he reports that it is constantly improving in productiveness.

The fifteen acres of oats were sown on corn-stalk ground without plowing, and cultivated with sulky corn-plow, and well harrowed. Cost, 1 day's work in sowing oats, \$1.50; 3 in cultivating with man and team, \$9; $2\frac{1}{2}$ in harrowing, \$7.50; 3 men two days in harvesting, at \$2.50 per day, \$15; 1 boy two days, at \$1 per day, \$2; 1 team 2 days, at \$1.50 per day, \$3; 4 men 1 day in stacking, \$8; 2 boys 1 day, \$2; 3 teams 1 day, \$4.50; 6 men part of a day in thrashing, at \$1.50, \$7.50; 4 teams $\frac{3}{4}$ of a day, at \$1.50, \$4.50; 1 boy $\frac{3}{4}$ of a day, at 75 cents, 55 cents; board of thrashers, \$4; of teams, \$1; paid thrashers \$11.84; interest on fifteen acres at \$40 per acre, at 10 per cent., \$60; total amount, \$141.69, or \$9.45 per acre.

The cost of raising 33 acres of corn was, for plowing, at \$1.50 per acre, \$49.50; 3 days' harrowing before planting, \$9; marking with four-row marker, \$3; *planting*: 2 men 2 days, at \$1.50, \$6; 1 team 2 days, at \$1.50, \$3; 1 planter 2 days, at \$2, \$4; *cultivating*: 6 days' harrowing before the corn came up, at \$3, \$18; 22 days' cultivating, man, team, and sulky-plow, at \$3, \$66; *harvesting*: 30 days' work, at \$1.50, \$45; interest on 33 acres at \$40 per acre, \$132; total amount, \$335.50, or \$10.16 per acre. The product was 1,500 bushels of corn.

FOREST-TREE PLANTING IN KANSAS.—A correspondent of the Department, in Republic County, Kansas, in urging public attention to the subject of forest-tree planting in that State, remarks:

Many thousand trees planted last spring grew well, both native and foreign. A great many are putting out fine groves and orchards; but homestead settlers are generally too poor to plant as large groves as this bleak, windy country needs.

We are all much in hopes that Congress may do something to help us. If they would give any one all the land he would plant in trees, perhaps some would be planted. But if they would give four or ten times as much as was well planted and taken care of, it would be some inducement for eastern capitalists to have trees planted here; and would benefit the nation and the State more than many settlers could do without capital. Where there is a soil so fertile, something should be done to make it fit for comfortable homes and a virtuous people.

A bill is before Congress for the encouragement of tree-planting and other agricultural development on the western plains. The Western Forest-tree and Hedge-growing Association, of Kansas, has been incorporated in that State with the design of encouraging systematic forest-culture on a portion of the great treeless plains. Its board of directors is mainly made up of men who have gained a wide reputation as tree-growers and agriculturists. Among them are Dr. John A. Warder, of Ohio; Robert

Douglas, of Illinois; and S. T. Kelsey, Alfred Gray, J. K. Hudson, W. H. Smallwood, and T. J. Peter, of Kansas. The bill referred to grants to this association one section of land for each mile in distance between Fort Dodge and Pueblo in Colorado, (both points being on the Arkansas River,) on the condition that it shall grow eighty acres in forest-trees on each section so granted, and shall put in cultivation one experimental farm of not less than forty acres in every fifty miles between the two points named, upon which shall be cultivated all the varieties of seeds and grains adapted to that climate, and, furthermore, shall annually report to the Department of Agriculture accurate results of all experiments in growing grains, trees, and other products from seeds.

FRUIT FROM THE MOST VALUABLE SEED DISTRIBUTED BY THE DEPARTMENT OF AGRICULTURE.—The secretary of a stock association in Pendleton County, Kentucky, reports that the annual and monthly reports of the Department of Agriculture, which have been distributed in that section, are leavening it with an increased desire for agricultural information, and are already showing good results in attempts to introduce better modes of agriculture and improved breeds of stock.

DESPONDENCY IN IOWA.—The secretary of the Cedar Falls Farmers' Club, Black Hawk County, Iowa, after reporting that hogs are selling at $2\frac{3}{4}$ to $3\frac{1}{4}$ cents, three-year old steers at 3 to $3\frac{1}{2}$ cents per pound, live weight, and oats and corn at 15 to 18 cents, and wheat at 65 to 95 cents per bushel, adds:

We are suffering severely from debts, low prices of farm products, and enormous railroad charges on freights. Real estate is worth 30 per cent. less now in Iowa than three years ago, and money is very scarce. The general cry everywhere is, "The railroad companies will ruin us." Last year our apple crop was abundant, but all varieties ripened prematurely, and were badly injured by the codling moth. A majority of many varieties of apple-trees in our oldest orchards were badly injured by the cold of December 23 and 24, 1872, when the mercury ranged from 23° to 35° below zero. The bodies of very many of them are burst from the limbs to the ground. I know but few varieties that are sufficiently hardy to endure this climate—latitude $42^{\circ} 30'$. The only varieties that I can recommend are Dutchess of Oldenburg, Tetofsky, Red Astrachan, Fameuse, Haas, Saxton, Plumb's Cider, and Ben Davis. Ben Davis is the only variety we have which is a good keeper, and that is of poor quality. We are experimenting with seedlings, for the purpose of getting, if possible, a few good winter varieties. All varieties of the tame plum have failed here, except the Lombard. That is hardy and productive. We cultivate a number of varieties of the grape, but the Concord is worth more than all other. Peaches are too tender. The only variety of the pear which I have tried that has not been ruined by the "fire-blight," is the Early Catherine. The Early Richmond and English Morello cherries are hardy enough, but not productive here.

CROPS AND FARM ANIMALS IN KANSAS.—The secretary of the Neosho Valley Agricultural Society, Labette County, reports as follows:

The weather has been favorable for prosecuting all kinds of farm work. It was warm, and very dry, from October 1 to December 18; at the latter date we had snow fall to the depth of a foot. Notwithstanding the very favorable fall weather, there remains in the fields about one-sixth of the entire crop of corn, not including a small portion of shock-corn. The area sown in wheat is 50 per cent. greater than that of any previous year. About 90 per cent. of the seeding was done with the drill, between September 12 and October 8. The ground was in good condition, and the prospect for a crop is at present altogether favorable. Our work-horses do not receive requisite care. Indeed, the greater proportion are little better cared for than range-stock, which obtains no better shelter than is furnished by a patch of brush or a rick of straw. At this time (January 7) all the horses in the towns, and about half in the country, are affected with the epizooty. The disease is of a mild form, partially disabling horses for two or three weeks, resulting in no deaths, except where horses have been hard driven while sick. With proper diet and rest there is no ground for apprehending serious trouble from the distemper; in fact, it seems to be affecting the people here worse than it does the horses. But a small number of hogs are fatted for the market as yet, but there is a fair showing of stock hogs. Our farmers are manifesting a very commendable spirit in procuring imported breeds. There is only a very limited number of sheep in this county.

STATIONARY FARMING.—Our correspondent in Douglas County, Georgia, reports that the 1st of January, 1873, finds most of the farmers in that section where they were on the 1st of January, 1872. After paying for fertilizers, help, and provisions, they have little or nothing left for the pocket or to pay debts with.

FERTILIZERS FOR TOBACCO.—Mr. James M. Crafts, of Whately, Franklin County, Massachusetts, sends to this Department the following interesting account of the extensive use of manures and other fertilizers, and of the manner of applying them in raising tobacco in that section:

I am one of a company of five persons who, in the last two years, have bought and shipped from Whitehall, New York, over 20 car-loads of horse-manure. Other parties have bought fully as much in Middlebury, Rutland, Montpelier, and Saint Johnsbury, Vermont. The cost at our station has averaged about \$10 per cord. Other parties have bought manure from the East Albany cattle-yards—perhaps 50 car-loads in less than two years—all of which, I think, has been sheep-dung. Others have been to New Haven, Connecticut, and still others to Boston and Cambridge; and now two of our farmers have been to Canada and bought 25 car-loads. A car-load of horse-manure contains about 7 cords, perhaps $6\frac{1}{2}$ on the average. This is generally obtained from livery-stables. That from Whitehall, New York, is from stables where canal horses and mules are kept. These are fed highly with grain, and the manure is very valuable. It is used on tobacco lands at the rate of about 10 cords to the acre. Probably there is no other species of manure which affords in such abundance all the elements of tobacco. It is rich in potash, phosphoric acid, magnesia, &c.

I will add a word about our mode of applying manure to tobacco. If, after spreading broadcast, we plow it under, the plowing is very shallow—not more than 5 or 6 inches deep. But as a rule we prefer to allow the manure to ferment and become fine, then spread it even and work it in upon the plowed surface with the gang-plow or with one of the wheel pulverizing-harrows; and we like the kind that is attached to a straight piece of plank with a tongue and seat. We would like to go over the ground as many as eight times with it; in fact we generally do go, say, four times one way and as many the other, finding our pay for the extra labor in the fineness of the soil. We are doing this work more thoroughly than we used to, and think we are well paid for it. We next fit the hills by ridging the land $3\frac{1}{2}$ feet apart and the hills 2 feet. Under this course we have found that we do not get much advantage from the use of superphosphates in the hill.

Some have tried experiments by using wheat-shorts as a fertilizer for tobacco, at the rate of 3 tons to the acre. A member of our club raised an acre of tobacco with shorts as a fertilizer, and the crop was a good one, estimated at 1,500 pounds. On another piece he tried Indian meal at the same rate with not nearly as good results. On 4 acres he used 200 pounds of shorts and 100 to 150 pounds of superphosphate strewed (after marking) on the marks, and then ridged so that the hills were made over the shorts and superphosphate. This gave him the best tobacco he ever grew, though he had used, by working in on the plowed surface, about 8 cords of manure and 200 pounds of Peruvian guano to the acre.

IMPROVIDENT HABITS OF THE FREEDMEN.—A casual correspondent writing from Morehouse Parish, Louisiana, says:

I do not know yet how I shall arrange with my freedmen for another season; have been hoping, each year, they would save enough to rent and stock themselves, but they will be as poor to start the coming year as they have been heretofore. I have tried hard to induce them to lay out something in a useful way—have been so much in earnest about it that I have never kept goods for sale, (which would be very profitable,) because I knew it would retard their progress toward comfort and competence, though it seems that I have been foregoing this profit to no good purpose, as they get credit with the Dutch Jews, who abound hereabouts. To give you some idea of how easy they make money, I will state the case of one who rents 25 acres of us. He commenced preparing the middle or the latter part of February; in July and August there was little or nothing to do in the field; he finished gathering about the 1st of November, making 300 bushels of corn, and 15 bales of middling cotton, worth 19 cents—clearing about \$1,200. Considering loss of time for Saturdays, (which are regularly kept for holidays,) and rainy weather, you will see that this crop was made and put on the market in about four months of working time. Can any other crop beat that? He works for two-thirds of the corn and three-fourths of the cotton; that is, we receive one-third and one-fourth for rent, which pays us about \$14 per acre when well worked, as in the above case. But nearly all the others, who have rented on the same terms, have failed to make money, either for themselves or us; in fact, the only full crops, outside of the above, have been made under my own supervision, where they had to do as I said.

RAIN-FALL IN CALIFORNIA.—The crops of California depend, as nowhere else in this country, upon the comparative amount of rain-fall of the winter or rainy season. If the amount is above an average of a series of years, a good crop of grain is assured. As the rain-fall of different seasons is exceedingly variable, the rain-gauge is consulted carefully, and rain prospects are canvassed with much solicitude. Nearly all the rain of the year falls between October and April, and a large proportion within ninety days from December 1. Yet there is no invariable law regarding it. There is much interest felt regarding the probable rain-fall of January, February, and March, with small data for accurate prognostication, as a study of the record of former years will show. If any weather bureau could deduce from these or any other facts a law governing rain-fall, it would prove of immense benefit to agriculture. The record is as follows :

Years.	October, November, December.	January, February, March, April, following.	Total.	Years.	October, November, December.	January, February, March, April, following.	Total.
	<i>Inches.</i>				<i>Inches.</i>		
1860.....	5.38	9.38	14.76	1867.....	16.66	15.82	* 32.48
1861.....	10.81	22.92	33.73	1868.....	3.39	12.60	15.99
1862.....	2.68	8.54	11.22	1869.....	4.93	8.37	13.30
1863.....	3.30	3.64	6.94	1870.....	1.58	6.13	7.71
1864.....	14.70	7.34	22.04	1871.....	11.20	11.30	22.50
1865.....	3.27	12.19	15.46	1872.....	7.18*	.....	.....
1866.....	11.94	13.36	25.30				

* To December 25.

WHEAT CROP IN DODGE COUNTY, WISCONSIN.—This is one of the largest wheat-growing counties in the State. Its product in 1869, as reported for the census, was 2,294,538 bushels; an estimate deemed accurate, places the crop of 1872 at 2,100,000 bushels; a falling off from 1869 of a little over 8 per cent.

PRODUCT OF SEEDS FROM THIS DEPARTMENT.—Our correspondent in McLennan County, Texas, reports that from one quart of corn, planted one month later than his other corn, the product was at the rate of 105 bushels to the acre; that from half a peck of wheat the yield was 12½ bushels, one hundred fold; that he raised short-stemmed Brunswick cabbages, weighing 9½ pounds each, and Italian red onions, weighing 11 ounces each; and that he put in market, last spring, tomatoes and beets of superior quality, ten days in advance of any other; all of which were from seeds sent out by the Department of Agriculture.

AGRICULTURAL IMPROVEMENT.—A correspondent in Davidson County, North Carolina, reports that the farmers in the county are manifesting a new interest in improving their lands and dwellings. Improved methods of cultivation are being adopted; some are putting up new buildings, others are repairing old ones, and the spirit of progress and thrift appears to be leavening the county.

FRUITFULNESS IN NEBRASKA.—A correspondent in Gage County, represents that hay and grain are very abundant in that section. Corn and oats sell at 15 cents per bushel; good barley at 20, and wheat at 85. He recommends the region for sheep-husbandry. He sold his last clip of wool, unwashed and unsorted, at Beatrice, the county-seat, for 46 cents per pound, and goes into winter quarters with over 700 sheep.

MILLVILLE FARMERS' AND GARDENERS' CLUB.—This club, located in Cache County, Utah, reports through its secretary, F. Yeates, experiments with varieties of seeds and small grains received from this Department, the results of which were for the most part favorable. The members of this club, now including nearly all the farmers in the community, are represented as alive to their own interests, and intent on finding out the most successful modes of farming and gardening. With this view they have resolved to hold monthly meetings for mutual instruction, and, in the growing season, to send out committees to inspect the treatment of seeds, the different modes of cultivation in practice, their respective results, &c.

PRODUCTS OF BLEDSOE COUNTY, TENNESSEE.—The secretary of the Farmers' Club of this county sends us a report of which the following is a digest. Of live animals driven or shipped to southern markets in 1872, there were 3,000 fat hogs; 1,200 cattle of an average gross weight of 950 lbs.; and 200 mules and horses, the average value being \$100. During the year 10 per cent. of the hogs died of cholera and other diseases, and about 1,000 were slaughtered in the county.

The products of the field are put down as follows: total of wheat, 20,000 bushels; average yield per acre, 10 bushels; of corn, 280,000, average, 20; of oats, 30,000, average, 20; of Irish potatoes, 10,000, average, 40; of sweet potatoes, 20,000, average, 80. Tons of hay, 250; average yield per acre, 1,500 lbs. The census returns give the corresponding products of the county for 1869 as follows: total of wheat, 22,034 bushels; of corn, 201,667; of oats, 21,550; of Irish potatoes, 6,256; of sweet potatoes, 4,714; of hay, 356 tons; of hogs, 11,048. Our correspondent reports that, notwithstanding fruit-culture receives in the county far less attention than it merits, apples, pears, and peaches are plenty, and that the latter grow almost spontaneously. He says:

An entire orchard can be hewn down, and in five years it will be bearing as vigorously as ever. Four or five strong shoots will spring up at or near the stump, forming a group of trees instead of the one hewn down. The old stump does not heal over, but decays in a few years.

The first "Collins steel plow" was introduced into the county three years ago, and now the farmers are fast superseding their old bungling plows and tools by that and other first-class farm implements.

LOS ANGELES COUNTY, CALIFORNIA.—A correspondent of the Department writes as follows respecting the county of Los Angeles.

The soil is a rich sandy loam, at Westminster, where I live. Our surface wells are about eight feet deep. This season has been too dry for us to produce good crops. All the rains fall during the months from December to June. It is now over seven months since we had any rain. The average rain-fall is about ten inches. We have at Westminster over thirty flowing artesian wells, and intend to irrigate our crops during the coming season. Our greatest difficulties are found in the lack of wood, or timber, and the severe winds which sweep over our treeless plains during the winter months. These winds, which come from the barren region of Western Arizona, are generally dry and hot. Our soil is so loose and sandy that these winds move it easily. The sand-storms are very destructive to young grain, often covering a whole field in a single day. To prevent the destructive effects of this wind, many in this county are planting willow hedges, obtaining the willows from the vicinity of the rivers, where they grow in abundance. These hedges are intended to answer the purpose of wind-breaks, as well as fences.

DESTRUCTION OF THE BUFFALO.—There is more than a probability that the buffalo will disappear with the Indian; that both the native man of North America and the animal mainly relied upon for his meat and his clothing, will become extinct. The Atchison, Topeka and Santa

Fé Railroad reached Fort Dodge, above the great bend on the Arkansas River, in Kansas, on the 23d of September, 1872. From that date to December 31, the shipment at that station of buffalo-hides was 43,029; of buffalo-meat, 1,436,290 pounds. These figures do not include the many buffaloes shot by sportsmen in warm weather, nor those slain for food by frontier residents; and, although they show a slaughter of over 43,000 in a little over three months, they are considerably less than they would have been had not the prevalence of the horse-disease seriously hindered the transportation of hides and meat to the station. That hinderance having disappeared, it is estimated that the shipments for January will exceed those of the preceding months by 150 per cent., and that, for the season of 1872-73 the slaughter in the neighborhood of Fort Dodge will amount to at least 100,000 buffaloes.

INDUSTRIAL DIVERSITY.—Some statistics of Union County will serve to illustrate the agricultural variety and thrift which characterize that section of Southern Illinois. This small county lies on the Mississippi, and is next to the border county on the south. According to the census of 1870, it had, in 1869, 75,832 acres of improved land, 83,606 acres of wood-land, and 5,300 acres of other unimproved land. The cash value of its farms was \$3,383,201; of the products of its orchards, \$150,576; of its market gardens, \$24,510; of its forests, \$12,031; of its home manufactures, \$26,284; value of its animals slaughtered, or sold for slaughter, \$137,288; amount of wheat produced, 180,231 bushels; of corn, 679,753 bushels; of oats, 124,473. There are three railroad stations in the county—Anna, Cobden, and Dongola. In 1872, among the products received and forwarded were, at Anna Station, 38,300 barrels of lime, 9,300 of flour, 4,800 of meal, 2,900 of onions, 2,940 of apples, 4,780 of sweet potatoes, 1,140 of dried fruit, 96 bales of cotton, 150 hogsheads of tobacco, 10,000 tons of fire-clay, 1,000 of white clay, 75,000 gallons of stone-ware, 9,866 bushels of peaches, 4,490 crates of berries, 5,000 pounds of wool, 22,100 pounds of pie-plant, 3,146 pounds of green hides, 609 pounds of dry hides, and 10 car-loads of poultry. At the Cobden Station, 8,514 bushels of strawberries, 1,653 of raspberries and blackberries, 190 of canned raspberries and blackberries, 450 of cherries, 22,885 of apples, 46,396 of peaches, 6,192 of pears, 12,705 of tomatoes, 8,000 of preserved apples, 7,000 of canned peaches, 417 barrels of sweet potatoes, 3,110 pounds of grapes. At the Dongola Station, 6,000 barrels of sweet potatoes, 4,300 of onions, 3,200 of apples, 5,100 of flour and meal, 100 bales of cotton, 3,100 flour-barrels, 2,212,000 feet of lumber and ties. The canned peaches and berries specified above were put up by Messrs. Cooledge & Wells, and the preserved apples by the Alden Fruit-Preserving Company, both establishments being located at Cobden. It was feared that the fruit trees, especially the peach, in that section had been greatly injured by the extreme cold weather in the latter part of December; but fruit-growers, who have made examination, concur in testifying that, owing to the dry autumn, the buds were in a remarkably good condition to resist the cold, and, in fact, have received comparatively little injury.

"BLOODY MURRAIN."—Mr. C. R. Moore, of Johnstown, Virginia, writes to the Department as follows:

One of my neighbors, a short time since, lost four out of six head of cattle with what is here called "bloody murrain"—bloody urinary discharges. I went to see him, to learn the particulars, which I send you. All his cattle were attacked. After losing four he gave the remaining two a pint each of petroleum, such as he burned, by pouring it down their throats. They recovered. He opened those which died, and found the bladders much distended with what appeared to be blood, but which was probably

bloody urine. As this disease is almost always fatal here, the cure is valuable, if it should prove so in other instances.

EXPERIMENTS IN SILK CULTURE.—Mr. V. P. Hoffman, secretary of the Egg Harbor City (New Jersey) Agricultural Society, writes to the Department as follows :

This society ordered a quantity of silk-worm eggs from California, and distributed the same gratis among the members, and others who were willing to experiment therein. With the exception of two, all had no previous knowledge of the rearing and culture of the same. As there were but few mulberry trees on hand the greater part of the worms were fed with Osage-orange leaves ; but little difference was noticeable in the appearance of the cocoons and reeled silk ; the reeled silk from the Osage-orange was said, by adepts, to be somewhat brittler than that of the mulberry. Specimens of cocoons and reeled silk were exhibited in the annual agricultural fair of this society by three parties, and they were all awarded some of the best premiums at our disposal. It is our object to foster this branch of industry as much as possible, resting upon the supposition that it will, in a not very distant time, prove one of the most remunerative pursuits, as our climate, during the culture of the worm, is very favorable.

NEW ZEALAND FLAX.—A New Zealand correspondent of the London Times states that an important discovery has been made in connection with the New Zealand flax, (*Phormium tenax*) the value of which has been tested by experiments made by Dr. Hector, chairman of the Flax Commission. Dr. Hector's attention, it seems, had been attracted to the durability of the fishing-lines of the natives, which were not rotted by the wet, as were other articles of the hempen manufacture. Meeting an old Maori woman one day, he inquired how these fishing-lines were prepared, and was told that the hands of the makers were always kept anointed with the oil of the weka (the New Zealand wooden) while they were plaiting the lines. Dr. Hector, upon this hint, proceeded to investigate the matter, and instituted a series of experiments, the result of which was the discovery in question, that oiled phormium, in the form of rope, was vastly stronger and more durable than the common phormium, or even the manila. The experiments consisted in running over a revolving shaft three pieces of rope of the same size, made respectively of common phormium, manila hemp, and oiled phormium, with weights attached to them, wetting all of them occasionally with both fresh and salt water. The result was that the common phormium ran 22 days, the manila 45 days, and the oiled phormium 95 days, the latter becoming more supple, and, as Dr. Hector expresses it, more like catgut in its wear, after running for a time.

AGRICULTURAL STATISTICS OF THE NORTHWEST PROVINCES OF INDIA.—The following is an analysis of official statistics of these provinces, (which include twenty-two districts,) for the year 1869-'70 : Total area, 53,431,188 acres ; cultivated area, 24,543,841 ; barren, 17,829,919 ; fallow, 1,690,789 ; old fields, 7,024,037. Of the total area, 33.37 per cent. is reckoned as "barren," 4.38 per cent. "revenue-free," 3.16 per cent. "fallow," 13.15 per cent. "old culturable," and 45.94 per cent. "cultivated." Of the total "culturable," 73.80 per cent. is cultivated. The total area bearing two crops the same season, ("dofus lee" area,) is 1,714,964 acres, which is 6.99 per cent. of the cultivated. The total product, in pounds, of rice was 1,521,859,566 ; of cotton, 75,767,590 ; of wheat and barley, 4,384,225,284. Of these, 20.46 per cent. of the rice, 49.85 per cent. of the cotton, and 17.84 per cent. of the wheat and barley were exported, the remainder, in each case, being retained for home consumption.

MARKET PRICES OF FARM PRODUCTS.

JANUARY, 1873.

The following quotations represent the state of the market, as nearly as practicable, at the beginning of the month.

Articles.	Price.	Articles.	Price.
NEW YORK.		BOSTON—Continued.	
Flour, superfine State... per bbl.	\$5 75 to \$6 35	Beef, western mess..... per bbl.	\$12 60 to \$12 50
extra State.....do.	6 90 to 7 90	western extra.....do.	13 00 to 14 00
superfine western.....do.	5 75 to 6 35	Pork, prime.....do.	11 50 to 12 00
extra to choice western,		mess.....do.	14 00 to 14 50
per barrel.....do.	6 90 to 12 75	Lard.....per lb.	8 1 to 9
southern shipping, com-		Butter, N. Y. and Vt.....do.	15 to 34
mon, to choice.....per bbl.	6 10 to 8 75	western.....do.	12 to 30
southern family, ordinary		Cheese, N. Y. and Vt. factory,	
to choice.....do.	8 50 to 12 50	per pound.....do.	12 to 14 1/2
Wheat, No. 1 spring.....per bush.	1 70 to 1 72	N. Y. and Vt. dairy,	
No. 2 spring.....do.	1 58 to 1 66	per pound.....do.	11 to 13 1/2
winter, red, west'n.....do.	1 79 to 1 85	western factory, good to	
winter, amber, western,		choice.....per lb.	12 to 14 1/2
per bushel.....do.	1 85 to 2 00	Cotton, ordinary to good ordi-	
winter, white, western,		nary.....per lb.	17 1/2 to 20
per bushel.....do.	1 80 to 2 20	low middling to good	
Rye, State.....per bush.	95 to 97	middling.....per lb.	20 to 26
western.....do.	93 to 95	Tobacco, lugs.....do.	10 to 10 1/2
Barley.....do.	92 1/2 to 1 12	common to medium	
Corn.....do.	64 to 69	leaf.....per lb.	11 to 12
Oats.....do.	44 1/2 to 52 1/2	Wool, Ohio and Pa.....do.	63 to 75
Hay, for retail.....per ton.	26 00 to 35 00	Michigan.....do.	62 to 66
for shipping.....do.	23 00 to 24 00	other western.....do.	60 to 65
Pork, mess.....per bbl.	13 25 to 13 50	pulled.....do.	40 to 75
prime.....do.	— to 11 50	combing fleece.....do.	70 to 75
prime mess.....do.	14 00 to —	California.....do.	23 to 50
Lard.....per lb.	7 1/2 to 8 1/2	Texas.....do.	45 to 55
Beef, plain mess, old and new,		PHILADELPHIA.	
per barrel.....do.	4 00 to 12 00	Flour, superfine.....per bbl.	4 50 to 5 50
extra mess, old and new,		extras.....do.	5 75 to 6 50
per barrel.....do.	8 50 to 13 50	family.....do.	7 50 to 8 75
Butter, western.....per lb.	11 to 21	fancy.....do.	9 00 to 11 00
State dairy.....do.	— to —	Wheat, winter red.....per bush.	1 90 to 1 95
Cheese, western dairy.....do.	12 1/2 to 13 1/2	winter, amber.....do.	1 95 to —
State factory.....do.	12 to 14 1/2	winter, white.....do.	2 00 to 2 10
Cotton, ordinary to good ordi-		spring.....do.	1 70 to 1 75
nary.....per lb.	17 1/2 to 19 1/2	Rye.....do.	92 to —
low middling to good		Corn.....do.	61 to 65
middling.....per lb.	19 1/2 to 23 1/2	Oats.....do.	45 to 51
Tobacco, lugs, all grades.....do.	9 1/2 to 10 1/2	Pork, mess.....per bbl.	13 00 to 13 75
common to medium		Lard.....per lb.	7 1/2 to 8
leaf, all grades, per lb.	10 to 11 1/2	BALTIMORE.	
Wool, Saxony fleece.....do.	62 1/2 to 75	Flour, superfine.....per bbl.	5 25 to 8 50
Merino, full blood.....do.	60 to 75	extras.....do.	6 75 to 10 00
combing.....do.	60 to 65	family and fancy.....do.	8 25 to 12 00
pulled.....do.	45 to 60	Wheat, white, fair to choice, per	
tub-washed.....do.	62 1/2 to 72 1/2	bushel.....do.	1 85 to 2 25
California spring clip, un-		amber.....per bush.	1 95 to 2 27
washed.....per lb.	45 to 50	red.....do.	1 80 to 2 10
California fall clip, un-		Rye.....do.	90 to 1 00
washed.....per lb.	30 to 33	Corn, white southern.....do.	63 to 65
Texas.....per lb.	23 to 60	yellow southern.....do.	62 to 64
BOSTON.		mixed western.....do.	62 to —
Flour, western, superfine, per bbl.	5 25 to 6 25	Hay, western baled, good and	
western extras.....do.	6 75 to 10 00	prime.....per ton.	32 00 to 35 00
western choice.....do.	9 00 to 12 50	Pork, mess.....per bbl.	13 50 to 14 00
southern extras.....do.	7 00 to 7 50	Lard.....per lb.	7 1/2 to 9 1/2
choice Baltimore.....do.	10 00 to 12 00	Butter, choice western.....do.	27 to 35
Wheat.....per bush.	1 65 to 2 00	fair to good west'n.....do.	20 to 26
Rye.....do.	1 05 to 1 10	Cheese, western factory.....do.	14 to 14 1/2
Barley.....do.	90 to 1 20	eastern factory.....do.	14 1/2 to 15
Corn, southern yellow.....do.	74 to 75	Cotton, ordinary to good ordi-	
western yellow.....do.	74 to 75	nary.....per lb.	17 1/2 to 18 1/2
Oats.....do.	50 to 60	low middling to mid-	
Hay, choice eastern and north-		dling.....per lb.	19 1/2 to 20 1/2
ern.....per ton.	27 00 to 29 00		
choice western.....do.	— to —		

Market prices of farm products—Continued.

Articles.	Price.	Articles.	Price.
BALTIMORE—Continued.		SAINT LOUIS.	
Wool, unwashed, free from burs, per pound.....do.....	\$0 35 to \$0 38	Flour, winter superfine . per bbl	\$4 50 to \$5 00
tub-washed.....do.....	55 to 60	extras.....do.....	5 25 to 7 50
pulled.....do.....	35 to 40	choice.....do.....	7 75 to 9 25
CINCINNATI.		Wheat, No. 1, red winter . per bus.	1 87 to 1 90
Flour, superfine.....per bbl.	5 60 to 6 25	No. 2, red winter.....do.....	1 85 to 1 88
extra.....do.....	7 50 to 7 75	No. 2, spring.....do.....	1 16 to 1 18
family and fancy.....do.....	7 75 to 9 25	Rye, No. 2.....do.....	72 to 75
Wheat, red winter, No. 1, per bushel.....do.....	1 68 to —	Barley, No. 2.....do.....	65 to —
red winter, No. 2, per bushel.....do.....	1 62 to 1 64	Corn, No. 2, white.....do.....	33 to 34
Hill.....per bush.....	— to —	No. 2, mixed.....do.....	33 to —
white.....do.....	— to —	Oats.....do.....	26 to 34
Rye.....do.....	88 to 91	Hay, prime timothy.....per ton.	17 00 to 19 00
Barley.....do.....	79 to 93	Pork, mess.....per bbl.	11 75 to 12 25
Corn.....do.....	41 to 42	Beef, mess.....do.....	14 00 to 15 00
Oats.....do.....	29 to 40	Lard.....per lb.	6 $\frac{1}{2}$ to 7
Hay, baled, No. 1.....per ton	20 00 to 21 00	Butter, prime to choice roll .do..	20 to 25
lower grades.....do.....	16 00 to 18 00	choice packed.....do.....	25 to 28
Beef, plate.....per bbl.	13 50 to 14 50	Cheese, New York factory.....do..	14 $\frac{1}{2}$ to 15
Pork, mess.....do.....	11 75 to 12 00	Ohio factory.....do.....	14 $\frac{1}{2}$ to 15
Lard.....per lb.	7 to 7 $\frac{1}{2}$	northwest'n fact'y.....do.....	14 $\frac{1}{2}$ to 15
Butter, choice.....do.....	22 to 24	Cotton, middling.....do.....	19 to 19 $\frac{1}{2}$
fair to prime.....do.....	14 to 21	Wool, unwashed, fine.....do.....	30 to 35
Cheese, prime to choice factory, per pound.....do.....	14 to 15	medium.....do.....	33 to 41
Cotton, ordinary to good ordi- nary.....per lb.	16 $\frac{1}{2}$ to 17 $\frac{1}{2}$	tub-washed, inferior.....do.....	50 to 54
low middling to good middling.....per lb.	18 $\frac{1}{2}$ to 21	prime.....do.....	60 to —
Tobacco, lugs.....do.....	8 to 22	NEW ORLEANS.	
leaf.....do.....	10 to 30	Flour, superfine.....per bbl.	6 80 to 6 87 $\frac{1}{2}$
Wool, common to fine fleece, per pound.....do.....	50 to 55	extras.....do.....	7 00 to 8 37 $\frac{1}{2}$
tub-washed.....per lb.	60 to 62	choice.....do.....	8 50 to 11 00
unwashed, clothing.....do.....	36 to 38	Corn, white.....per bush.	75 to 80
unwashed, combing.....do.....	45 to 48	mixed.....do.....	— to 78
pulled.....do.....	45 to 48	Oats.....do.....	49 to 50
CHICAGO.		Hay, choice.....per ton	45 00 to —
Flour, white winter extras, fair to choice.....per bbl.	7 50 to 9 75	prime.....do.....	42 00 to —
red winter extras.....do.....	6 50 to 7 55	Pork, mess.....per bbl.	13 50 to 13 75
good to choice spring ex- tras.....per bbl.	5 50 to 6 50	Beef, Texas mess, old and new.....per bbl.	9 00 to 17 50
spring superfines.....do.....	3 00 to 4 50	western mess.....do.....	16 00 to 21 00
good to fancy Minnesota, per barrel.....do.....	6 00 to 7 25	Fulton market.....do.....	21 00 to 24 00
Wheat, No. 1 spring.....per bush.	1 28 to 1 29	Lard.....per lb.	8 $\frac{1}{2}$ to 10
No. 2 spring.....do.....	1 23 to 1 24 $\frac{1}{2}$	Butter, choice western.....do.....	25 to 26
No. 3 spring.....do.....	1 09 to 1 09 $\frac{1}{2}$	choice Goshen.....do.....	36 to 37
Rye, No. 2.....do.....	68 to 69	Cheese, western factory.....do.....	13 $\frac{1}{2}$ to 16
Barley, No. 2.....do.....	65 to 66	New York cream.....do.....	17 to 18
Corn, No. 2.....do.....	31 to 31 $\frac{1}{2}$	Cotton, ordinary to good ordi- nary.....per lb.	17 to 18 $\frac{1}{2}$
Corn, rejected.....per bush.	29 $\frac{1}{2}$ to —	low middling to good middling.....per lb.	19 $\frac{1}{2}$ to 21
Oats, No. 2.....do.....	23 $\frac{1}{2}$ to 25	Tobacco, lugs.....do.....	8 to 9
rejected.....do.....	— to —	low leaf.....do.....	9 to 9 $\frac{1}{2}$
Hay, timothy.....per ton.	15 00 to 17 00	medium leaf.....do.....	9 $\frac{1}{2}$ to 10 $\frac{1}{2}$
prairie.....do.....	9 50 to 11 50	SAN FRANCISCO.	
Pork, mess.....per bbl.	11 25 to 11 40	Flour, superfine.....per bbl.	4 20 to 4 50
Beef, mess.....do.....	8 50 to 9 00	extra superfine.....do.....	— to —
extra mess.....do.....	9 50 to 10 00	higher grades.....do.....	6 00 to 6 25
Lard.....per cental.	7 00 to 7 12 $\frac{1}{2}$	Wheat, State.....per cental.	1 80 to 2 05
Butter, strictly choice dairy .p. lb.	25 to 38	Oregon.....do.....	1 80 to 2 05
good to choice roll .do.....	18 to 23	Barley.....do.....	1 30 to 1 45
Cheese, New York factory.....do..	13 $\frac{1}{2}$ to 14 $\frac{1}{2}$	Oats.....do.....	2 00 to 2 25
Ohio factory.....do.....	11 to 13	Corn, white.....do.....	1 25 to —
western factory.....do.....	11 to 13	yellow.....do.....	1 25 to —
Wool, tub-washed.....do.....	55 to 65	Hay, State.....per ton.	15 60 to 23 00
fleece-washed.....do.....	45 to 59	Pork, mess.....per bbl.	19 00 to 20 00
unwashed.....do.....	33 to 38	prime mess.....do.....	18 00 to 18 50
pulled.....do.....	43 to 50	Beef, mess.....do.....	— to 12 50
		family mess.....per half bbl.	9 00 to 10 00
		Lard.....per lb.	9 to 11
		Butter, overland.....do.....	15 to 35
		California.....do.....	40 to 60
		Oregon.....do.....	18 to 20
		Cheese.....do.....	12 to 16
		Wool, native.....do.....	12 to 20
		California.....do.....	25 to 28
		Oregon.....do.....	25 to 28

LIVE-STOCK MARKETS.

CATTLE.—NEW YORK: *Common to fair*, \$10 to \$11.50 per cental; *good to prime*, \$12 to \$13.50; *extra*, \$13.75 to \$14.25; *holiday beefs*, \$14.50 to \$15.—*Average*, \$11.75; *Milch cows*, \$45 to \$90 per head; *medium grass calves*, \$11 per head; *fat milch veals*, 9½ to 10 cents per pound.

CINCINNATI: *Prime to extra shipping grades*, \$5.25 to \$6 per cental, gross; *prime to extra butcher's stock*, \$4.50 to \$5.25; *medium*, \$3.50 to \$4; *inferior*, \$2.50 to \$3. Receipts light.

CHICAGO: *Extra graded steers*, averaging 1,450 pounds and upward, \$6.15 to \$6.30 per cental, gross; *choice beefs*, fine, fat, well formed, from 3 to 5 years old and upward, averaging from 1,250 to 1,400 pounds, \$5.75 to \$6; *good beefs*, well fattened, finely formed steers, averaging from 1,100 to 1,300 pounds, \$5 to \$5.50; *medium grades*, steers in fair flesh, averaging 1,100 to 1,250 pounds, \$4.50 to \$4.75; *butcher's stock*, \$2.75 to \$4.50; *stock cattle*, \$3 to \$4; *inferior*, \$1.75 to \$2.50; *Texas cattle*, northern-fed, \$2.75 to \$3.50; *do.*, corn-fed, \$3.75 to \$4.50.

SAINT LOUIS: *Choice native blood steers*, \$5.50 to \$6 per cental; *prime second class do.*, 1,150 to 1,400 pounds, \$4.50 to \$5; *good third class*, \$4 to \$4.50; *fair butcher's steers*, \$3.50 to \$4; *choice corn-fattened Texans*, \$4 to \$4.50; *inferior to common do.*, \$1.50 to \$1.75; *milch cows*, \$25 to \$50 per head; *veal calves*, \$6 to \$10 per cental.

SHEEP.—NEW YORK: Supply limited and market good. *Fat lots*, \$7 to \$7.50 per cental; *extra*, \$8 to \$8.25; *poor*, \$4.75 to \$5.50; *average*, \$5.56.

CINCINNATI: *Prime to extra*, \$4.50 to \$5 per cental, gross; *common to good*, \$3.50 to \$4; *lambs*, \$4 to \$6.

CHICAGO: *Common to choice*, \$3.25 to \$5.25.

SAINT LOUIS: *Extra to choice mutton grades*, \$4.50 to \$5 per cental, gross; *fair to good*, \$3.25 to \$4.25; *common to medium*, \$2.75 to \$3.

HOGS.—NEW YORK: Live hogs, \$4.62½ to \$4.87½ per cental; city-dressed, \$5.25 to \$6.50; western, \$5.12½ to \$5.62½.

CINCINNATI: *Good to prime lots*, \$3.65 to \$4 per cental, gross. Receipts light.

CHICAGO: *Extreme range*, \$3.55 to \$3.90 per cental, gross.

SAINT LOUIS: *Extra to choice*, \$3.60 to \$3.65 per cental, gross; *fair to good*, \$3.30 to \$3.50; *common to medium*, \$3.25 to \$3.35.

FOREIGN MARKETS.

WHEAT.—The weekly average prices of wheat in London during December, 1872, were, respectively, 56s., 55s. 10d., 56s. 3d., 56s. 9d., and 55s. 6d. per quarter, the aggregate sales being 252, 555 quarters. The standing quotations of the Mark Lane Express during the same time, were as follows: British white wheat, 50s. to 67s. per quarter; *do.* red, 50s. to 63s.; American, 58s. to 61s.; German, 59s. to 81s.; Russian, 47s. to 60s.; Danish and Holstein red, 60s. to 63s.; California, 65s.; Chilean white, 67s.; Australian, 64s. to 66s. In Liverpool American white ranged, with some fluctuations, between 13s. and 14s. 6d. per cental; *do.* red winter and southern, steady between 11s. 8d. and 12s. 2d.; *do.* No. 1 spring, 11s. 6d. to 12s. 2d.; *do.* No. 2 spring, 11s. 3d. to 11s. 8d.; California white, 12s. to 13s. 8d.; Canadian white 13s. to 14s. 6d.;

do. red, 12s. to 12s. 7d.; Chilian white, 12s. to 12s. 6d.; French white, 12s. 3d. to 13s. 6d.; do. red, 11s. 4d. to 12s. 7d.; Spanish white, 12s. 4d. to 12s. 9d.; Danubian, 8s. to 9s. 10d.; Egyptian, 8s. to 11s. In Paris, during the first two weeks, the wheat trade tended downward, but the decline was arrested, and prices subsequently rose to what they were at the commencement—white wheat, 56s. to 58s. per quarter; red, 54s. to 55s. In England the weather was subject of chronic complaint among agriculturists, the intervals of fine weather being few and brief, while the unfavorable meteorological conditions were varied by storms and floods. But little wheat had been sown, and fears were entertained that even that would be rotted by the excessive moisture. This fear was also manifested on the continent, where the sowing was more successful. Yet foreign wheat was arriving in London in such quantities as to make it difficult to maintain standing rates. London averages were about 1s. below the country averages; hence the poor qualities of British wheat in that market.

FLOUR.—In London, British best town households flour stood uniformly at 50s. to 57s. per 280 pounds; country households, 43s. to 47s.; Norfolk and Suffolk, 40s. to 42s.; American flour, per barrel, 25s. to 28s.; extra and double extra, 30s. to 34s. Supplies of both native and foreign flour were good. At Liverpool, English and Irish superfines were quoted at 40s. to 46s.; do. extra, 43s. to 51s.; Trieste and Hungarian, 61s. to 75s.; Chilian and Californian, 44s. to 50s.; American, per barrel of 196 pounds, western, 28s. 6d. to 31s.; extra State, 29s. to 34s.; Baltimore and Philadelphia, 30s. to 35s.; Ohio, 31s. to 33s.; Canadian, 30s. to 34s. In Paris, during the period under consideration, the flour market exhibited a continued improvement, from, however, a depressed starting-point. The weekly range of prices for consumption for each week were, respectively, 41s. 9d. to 46s. 2d.; 42s. 3d. to 46s. 9d.; 42s. 11d. to 47s. 5d.; 43s. 6d. to 48s.; 43s. 6d. to 48s. per 280 pounds.

INDIAN CORN.—The standing quotations of the Mark Lane, London, market, during the month, were 32s. to 34s. per quarter for white corn, and 28s. to 29s. for yellow; Liverpool, per 480 pounds, American white, 31s. to 32s. 6d.; do. yellow, 29s. to 29s. 6d.; Trieste, 30s. to 31s.; Danubian, 29s. 6d. to 32s.

WOOL.—The market in London for English wool was firm and well maintained, though transactions were by no means large. Southdown hoggets were quoted at 1s. 9½d. to 1s. 11d. per pound; Southdown ewes and weathers, 1s. 8d. to 1s. 10d.; Leicester ewes and weathers, 1s. 11d. to 2s.; Kent fleeces, 1s. 10½d. to 2s. 0½d.

BUTTER.—The Mark Lane Express quotes English butter, in London, at the close of each week, as follows: Dorset, per cwt., 140s. to 144s.; 124s. to 140s.; 120s. to 140s.; 112s. to 140s. Friesland, 110s. to 130s.; 120s. to 130s.; 130s. to 134s.; 120s. to 132s.; 120s. to 130s. Jersey, 104s. to 112s.; 98s. to 112s.; 106s. to 120s.; 108s. to 124s.; 104s. to 120s.

CHEESE.—In London, Cheshire cheese ranged from 50s. to 84s. per cwt.; Double Gloucester, 58s. to 78s.; Cheddar, 64s. to 88s.; American, 50s. to 72s.

LIVE-STOCK.—At the great annual sale of fat stock for Christmas consumption, held at the Metropolitan Cattle-Market, in London, December 16, 1872, both the number and quality of the animals offered exceeded all expectation. Late rains had saturated the pastures, especially in the great northern cattle-raising counties and in Scotland, where the season was one of the most disastrous on record. Scotch hay was secured in an indifferent condition, while the root crops turned out poorly. The fine show of animal from those regions was, then, espe-

cially gratifying. Prime small breeds are becoming more plentiful and symmetrical, weight-carrying animals have largely superseded the massive, awkward beasts formerly so common. Foreign stock was also well represented, French graziers especially fully sustaining their former reputation. Continental breeders have made great improvements of late years, but have not kept pace with these English and Scotch competitors.

The comparative prices of farm animals at the last two "Christmas cattle markets" were as follows:

	1871.		1872.	
	s. d.	s. d.	s. d.	s. d.
Cattle:				
Coarse and inferior, per 8 pounds.....	3 10	to 4 6	3 8	to 4 0
Second quality, per 8 pounds.....	5 2	to 5 8	4 2	to 4 8
Prime large oxen, per 8 pounds.....	5 8	to 5 10	5 0	to 5 8
Prime Scots, per 8 pounds.....	6 0	to 6 2	5 10	to 6 0
Calves:				
Large coarse, per 8 pounds.....	4 0	to 5 0	5 0	to 5 0
Prime small, per 8 pounds.....	5 4	to 6 8	5 8	to 6 8
Sheep:				
Coarse and inferior, per 8 pounds.....	4 4	to 5 4	4 2	to 4 8
Second quality, per 8 pounds.....	5 6	to 6 4	4 10	to 5 6
Prime coarse-wooled, per 8 pounds.....	6 6	to 6 8	6 2	to 6 6
Prime Southdown, per 8 pounds.....	6 10	to 7 0	6 8	to 7 0
Hogs:				
Large, per 8 pounds.....	3 6	to 4 0	3 8	to 4 6
Neat, small porkers, per 8 pounds.....	4 0	to 4 8	4 8	to 5 0
Supplies:				
	1871.		1872.	
Cattle.....	6,320		7,560	
Calves.....	41		340	
Sheep and lambs.....	17,240		15,530	
Pigs.....	70		100	

